The Local Context in Global Value Chains: A Case Study of the Ghanaian Pineapple Export Sector

Nana Amma Asante-Poku

Thesis submitted for the degree of PhD

2016

Department of Economics
SOAS, University of London

Abstract

Significant changes in global production and trade have occurred over the last three decades because of globalisation. The GVC framework has been instrumental in advancing knowledge on how firms and nations can participate and benefit from production and trade in this era of globalisation. In accounting for the governance of value chains, the framework places a premium on lead firm strategies and requirements. However, recent studies have noted that the institutional context, especially local conditions, in which GVCs are situated play a more significant role than hitherto acknowledged.

In the face of changing global value chain governance, the Ghanaian pineapple export sector has changed from one dominated by smallholder production to one where exporters dominate. Thus, governance has evolved from market governance to captive and/or hierarchy. This thesis examines the role local conditions (or the local context) actually played in this evolution.

The thesis finds that governance is shaped and conditioned by the state and its policies, inter-firm relations and networks, norms of behaviour and financial incentives. Inadequate government support, lack of horizontal collaboration, widespread opportunistic behaviour and financial constraints negatively impacted the organisation and coordination of the chain in the period prior to 2005. After 2005, chain coordination and organisation have improved. Contractual relations provide safeguards for both smallholders and processors; exporters are more organised and knowledgeable, although buyers have significant power over pricing of output. However, lack of financial incentives due, in most part, to past behaviour and perceptions and lack of innovation in financial institutions, still impacts the chain negatively.

Acknowledgement

First and foremost, I thank the Lord Almighty for granting me the privilege and ability to start and complete this work. My deepest gratitude goes to my supervisor, Prof. Machiko Nissanke, who has nurtured and given structure to my thoughts. I also thank the Ghana Education Trust Fund (GETFund) which provided the financial support to make my education possible.

To my husband, Kwabena, I appreciate your love and support. I am much indebted to my sisters, Drs. Ilara Mahdi and Sophie van Huellen, for their kindness, generosity and friendship throughout the years, and especially when I had my son, Kwaku. I could not have managed to do it all on my own. Ilara, thanks so much for babysitting even after a tedious day at school: and Sophie, I will surely miss those days when we shared perspectives and insights on the value chain while we walked to school.

As for my auntie, Mrs Naomi Odoi, who generously welcomed me into her home and ensured that my stay in London was just like home, I cannot thank you enough. I am also most grateful to my father-in-law, mother-in-law, husband, mother and siblings for taking excellent care of my son whenever I was away from home. I appreciate the sacrifices you made so that I could concentrate on my studies.

I extend my profound gratefulness to all participants of this study in Ghana and abroad who spared time from their busy schedules to grant me interviews or scheduled interviews on my behalf. I could not have gathered the needed information without your assistance. I am also immensely grateful to Mr Kwesi Korboe and Mr Baba Adam, for putting me in touch with exporters and producers and continuously being available to answer further questions or give clarifications whenever I needed them. To Ms Patricia Adoma, I am thankful for putting me in touch with the processing firm.

Thanks to my father, Dr Kwadwo Afari-Gyan, for proofreading my work: and to my husband, Abena Poku-Awuku and Sophie for reading through various draft chapters of the thesis at different stages. I also thank my two external examiners, Professors Stephanie Ware Barrientos and Peter Cornelisse, for thoroughly reading my work and providing extremely constructive and insightful feedback.

To members of the Kings Cross Baptist Church, London, I am grateful for your friendship and prayers, particularly Mrs Elizabeth Akinloye for her prayers and words of

encouragement during the tough last months of my studies. I wish to thank everyone else whose name is not mentioned here but who has been a part of this journey. Lastly, I dedicate this work to my son, Kwaku, for providing a lot of distraction, as I was nothing more than mummy and playmate.

Table of Contents

List of Figures

List of Tables

List of Abbreviations

BFL	Bomarts Farms Limited
C&F	Costs and Freight
CAJ	Cooperativa Agricola de Juazeiro
CEO	Chief Executive Officer
CMC	Cocoa Marketing Company
CRI	Cocoa Research Institute
EC	Exchange Configuration
ECOWAS	Economic Community of West African States
EDAIF	Export Development and Agriculture Investment Fund
EMAQP	Export Marketing and Quality Awareness Programme
ERP	Economic Recovery Programme
€	Euro
EU	European Union
FAGE	Federation of Association of Ghana Exporters
FBOs	Farmer Based Organisations
FOB	Free on Board
GCC	Global Commodity Chain
GEL	Golden Exotics Limited
GEPC	Ghana Export Promotion Council
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GSA	Ghana Standards Authority
GVC	Global Value Chain
ha	Hectares
HAG	Horticulture Association of Ghana
HAG	Horticultural Association of Ghana
HAG	Horticulture Association of Ghana
HDU	Horticulture Development Unit
HEII	Horticulture Exports Industry Initiative

kg	Kilogramme
MCA	Millennium Challenge Account
MFI	Microfinance Institution
MiDA	Millennium Development Authority
MOAP	Market-Oriented Agricultural Programme
MoFA	Ministry of Food and Agriculture
Mt	Metric Tonne
NTAE	Non-Traditional Agriculture Exports
NTE	Non-Traditional Exports
QCD	Quality Control Division
SAP	Structural Adjustment Programme
SPEG	Sea-freight Pineapple Exporters of Ghana
SSA	Sub-Saharan Africa
TIPCEE	Trade and Investment Program for a Competitive Export Economy
US	United States
US$	United States dollar
VAT	Value Added Tax
WST	World Systems Theory

Chapter 1 Introduction

1.1 Introduction and Motivation

Most developing countries, including Sub-Saharan African (SSA) countries, adopted export-led development strategies during the 1980s. However, since then, the internationalisation of production and trade has become more pronounced due to the influence of three factors. First, recent processes of economic globalisation (e.g. improvements in technology and communication systems, increased consumerism, rising production costs, removal of trade barriers and increased mobility of financial capital) have aided the fragmentation of production across nations.[1] Second, to coordinate fragmented supply chains across the world, multinational companies (MNCs) have established complex relationships with independent suppliers. Third, product and process standards have increasingly become an important means by which product quality is assessed worldwide.

Thus, production and trade have increasingly been organised in Global Commodity Chains (GCCs) and Global Value Chains (GVCs). In these chains, countries need not develop entire domestic industries capable of participating in the whole value chain, but can rather focus on specific tasks or functions (Cattaneo et al., 2013). These chains have been touted by organisations such as the World Bank and the OECD as a means of achieving development in developing countries (OECD/WTO, 2013; Cattaneo et al., 2013; Goger et al., 2014; Taglioni and Winkler, 2014), since they deliver such benefits as improvements in the quality of production, higher incomes, increased productivity of producers and profitability (Maertens and Swinnen, 2009; Barrett et al., 2012; Bamber et al., 2013). Nonetheless, several studies have shown that integration into these chains and upgrading do not necessarily lead to positive outcomes for participants or the development of domestic economies (Barrientos, Dolan and Tallontire, 2001; Ponte and Ewert, 2009; Mitchell and Coles, 2011; Rossi, 2013; Goger et al, 2014; OECD and the World Bank,

[1] Globalisation is classified as having occurred in phases or eras. The first era took place from the mid-1800 or 1870 until 1914 (Friedman, 2000; ECLAC, 2002; Khaler and Lake, 2003) and was characterised by significant capital and labour mobility and increased trade (increased trade was a consequence of reductions in shipping costs). This phase of globalisation was ended by the two World Wars fought in the period 1914 – 1918 and 1939-1945. The second was the Post World War II era from 1945-1973, characterised by the development of global infrastructure for financial and trade relations; less capital and labour mobility and increased trade in manufactures among developed countries (Berger, 2000). The third era of globalisation (1973 - now) is characterised by unparalleled cross-border movement of people, capital, goods and services; organisation of production through vertically integrated companies or coordinated networks (Bordo, Eichengreen and Irwin, 1999; Borrus, Ernst and Haggard, 2000, both cited in Kahler and Lake, 2003:5).

2015).[2]

The outcomes of participating in GVCs are determined by how the chains are governed by lead firms. These firms wield immense power and decide what is produced, who participates in the chain and how products are made (Humphrey and Schmitz, 2002). Governance, therefore, is 'the authority and power relationships that determine how financial, material and human resources are allocated and flow within the chain' (Gereffi, 1994:97). Despite the significant impact governance makes on the chain, its focus on lead firms' interactions with first-tier suppliers is criticised as giving a limited view and an unsatisfactory account of how value chains are actually structured, organised, governed and impact on chain participants (Henderson et al., 2002; Smith et al, 2002; Gellert, 2003; Dussel-Peters, 2008; Gibbon, Bair and Ponte, 2008; Selwyn, 2008; Bair and Werner, 2011a; Elola, Vladiliso and López, 2013). This weakness ensues from the little or insufficient attention given to the role of the institutional dimension or pillar (i.e. social, economic, cultural, technological and political contexts) in which chains are embedded (Dussel-Peters, 2008; Bair, 2008; Gibbon, Bair and Ponte, 2008; Sturgeon, 2009; Pietrobelli and Rabellotti, 2011). Overall, Bair (2005) suggests that the institutional dimension of the GVC framework was conceived after the other dimensions had been adequately dealt with. Hence it is the least developed. Furthermore, in studies where the institutional dimension is included, Neilson and Pritchard (2009:47) say it 'tends to appear wooden and simplistic' due to the lack of definition and theorisation.

In this thesis, I argue that when the GVC framework is applied to interactions between actors who are second, third or fourth-tier suppliers i.e. at the national or domestic level, governance cannot be fully understood without a consideration of local conditions. Recently, much thought has been given to the influence of local conditions in which the chains are situated. Empirical work has focused on the role of the local political, social, cultural, technological or economic context (Gellert, 2003; Thomsen, 2007, Selwyn, 2008; Herath and Weersink, 2008; Neilson and Pritchard, 2009; Nugraha, 2010; Oro and Pritchard, 2011; Elola, Vladaliso and López, 2013; Mohan, 2016). Deep insights have been gained from these studies: however, apart from Mohan (2016), the empirical literature has not attempted to do this from the perspective of New Institutional Economics (NIE) even though NIE is one of the theoretical bases for the GVC framework.

[2] UNECA (2013:75) cautions that concentrating on tasks at the lower end of the value chain may perpetuate the status of SSA countries as commodity-dependent economies.

Mohan's (2016) work on the tea value chain in Nepal uses endogenous institutional change theory to build a stylised typology of how the local context impacts governance and farmers' livelihoods. In her work, the impetus for a change in governance is internally triggered by a code of conduct put in place by two industry groups, the Tea Development Alliance and the Himalayan Orthodox Tea Producers' Association (HOTPA), and implemented with the assistance of non-governmental organisations (NGOs). The code of conduct altered product characteristics and presented both opportunities and challenges for the chain actors, resulting in the evolution of actor strategies, norms, and organisations. The case of an external trigger of change altering product characteristics and the role of local conditions in how actors respond to the change is not considered. This gap in the literature is what this study on the Ghanaian pineapple export value chain seeks to fill.

1.2 Research Context: The Role of Horticulture in Ghana's economy

Ghana, a developing country in West Africa, achieved middle-income status in 2010. The total land area of Ghana is 238, 842 square kilometres (Ministry of Food and Agriculture (MoFA), 2013a:3). Arable land as a percentage of total land area is 21% (FAO, 2016).[3] The share of agriculture in GDP has been declining over the years and stood at 22% in 2013, compared with 32% in 2009 (Bank of Ghana (BoG), 2013; Ghana Statistical Service (GSS), 2014a). However, agriculture is currently the largest employer with 45% of the working population, an increase over the 42% figure in 2010 (World Bank DataBank, 2016). Agriculture is also dominated by smallholder production, with about 90% of farm lands less than 2 hectares in size (MoFA, 2013a:5). Cocoa is the country's main traditional agriculture export, and together with gold form the country's foremost exports. In terms of volume, non-traditional exports (NTEs), represented 17.20% of total exports in 2013 (GEPA, 2014).[4] Horticulture products including pineapple, mangoes, and vegetables, are a subset of NTEs. In 2013 horticulture export receipts represented just 0.3% of the country's total export receipts (GSS, 2014d). However, horticultural exports have significant employment and poverty reduction potential. According to the Ghana Shared Growth Development Agenda II (NDPC, 2014:112), the highest reduction in the incidence of poverty (64% to 24%) over the 1991/1992 – 2005/2006 period was experienced by

[3] Available at http://ghana.opendataforafrica.org/ymjdrxb/ghana-fao-stat-land-use-and-agricultural-inputs

[4] NTEs can be grouped into three: (a) Non-traditional agricultural products (NTAEs) e.g. pineapples, yam, cassava, beans, okra, rubber, tuna, medicinal seeds and plants (b) Processed and semi-processed e.g. canned tuna, plywood, veneer, aluminium utensils, canned fruits and vegetables (c) handicrafts e.g. textiles, ornamentals (e.g. beads and jewellery), wood carvings (Addo and Marshall, 2000; World Bank, 2001a).

households engaged in export-oriented crops, such as cocoa and horticulture.

Throughout the 1960s and 1970s, Ghanaian governments sought to intervene in all sectors of the economy through the implementation of policies such as fixed exchange rate, import and export quotas, price controls, controlled credit allocations and interest rate ceilings (Aryeetey and Harrigan, 2000; Hutchful, 2002). The result of these interventions, together with external shocks (e.g. the petroleum price increases of the 1970s, declining commodity prices and declines in the export of cocoa) was that by the early 1980s the economic situation of the country was perilous. The economy was characterised by large fiscal deficits, an overvalued exchange rate, high inflation (122.8% in 1983), low savings mobilisation, low government revenue, among others (World Bank, 1984; Addo and Marshall, 2000; Aryeetey and Harrigan, 2000; World Bank DataBank, 2016).[5] The military-led Provisional National Defence Council (PNDC) government, in an effort to stem and reverse the economic deterioration, introduced the Economic Recovery Programme (ERP)/Structural Adjustment Policies (SAP) in 1983 with the support of the World Bank and IMF (Addo and Marshall, 2000; Aryeetey and Harrigan, 2000). The main objectives of the reform were (a) stabilisation (b) liberalisation and (c) rehabilitation (Armstrong, 1996; Hutchful, 2002). Nonetheless, the ERP/SAP reforms were partly intended to stimulate production in old and new export sectors of the economy (World Bank, 1984). The role to be played by the state, which had hitherto actively intervened in the economy, was to be kept to a minimum. Specific to the agriculture sector, this involved (a) removal of input subsidies e.g. fertiliser subsidies (b) dismantling of state marketing boards and (c) privatisation of state-owned agricultural companies (Hutchful, 2002; Asuming-Brempong, 2003).

The World Bank promoted NTEs as a strategy to diversify Ghana's export base and reduce its reliance on gold and cocoa. High-value agriculture products, such as pineapple, were identified as products in which Ghana had a comparative advantage due to its climate and proximity to Europe (World Bank, 2001a). Incentives were provided at the macro level to stimulate the production and export of NTEs. The value of NTE exports increased from US$1.9million in 1984 to US$119.3 million in 1994 and US$2.3 billion in 2012 (Ampadu-Agyei, 1994; Laryea and Akuoni, 2012; MoFA, 2013a). By 1986 pineapple exports had become the number one horticulture export of the country, with 85% share of horticultural

[5] For example, inflation rates averaged 40% during the 1970s, and the exchange rate was overvalued at 816% as at 1982 (Werlin, 1994 in Aryeetey and Harrigan, 2000:8).

exports (World Bank, 1990:11). It was also a major contributor of export receipts by non-traditional agricultural exports (NTAEs).

The foremost incentive credited with attracting private actors to the export of pineapple was the exchange proceeds retention scheme. Exchange rate controls imposed since the 1960s had led to difficulties in acquiring foreign exchange for imports. As part of the ERP/SAP, the exchange rate market was liberalised to ease the inflow and outflow of capital. The exchange proceeds retention scheme served as an incentive for businessmen involved in imports and exports to participate in the pineapple industry. In 1986, the exchange retention rate of non-traditional exports was 35% and this increased to 100% by 1992, allowing exporters in the pineapple sector the chance to acquire needed foreign exchange for their primary businesses (Jebuni et al., 1992; Daddieh, 1998; Takane, 2004; Kastner, 2005; Whitfield, 2011). Other incentives given to the NTE sector included (a) a corporate tax rebate allowing manufacturers or exporters of agricultural produce (part or 100%) to claim 30 - 75% of their tax liability (b) a customs duty draw back scheme which allowed exporters to obtain a refund of import duties paid on imported materials used in the production of export goods (c) a bonded warehousing scheme allowing exporters to hold imported raw materials to be used in the production of exports without the payment of duty and (d) an annual national awards scheme for high achieving exporters (Jebuni et al., 1992; Addo and Marshall, 2000; Kastner, 2005). [6]

The Smooth Cayenne pineapple variety was then the preferred variety on the international market. In 1984, pineapple exports were 650 tonnes and this increased steadily to over 10,000 tonnes in 1991; and by 1995 the country was exporting over 15,000 tonnes (Takane, 2004; Faostat, 2016). The country earned the status of third largest exporter of pineapples to the EU after Côte d'Ivoire and Costa Rica, from the mid-1980s to mid-2000s and commanded a 10% share of the market in 2004. Smallholder farmers who engaged in market relations with exporters supplied the bulk of the produce, 40% -60% (Takane, 2004; Fold and Gough, 2008). The booming pineapple export sector was, however severely challenged, especially in terms of finance, infrastructure and lack of collaboration among exporters. Overall, the private sector struggled to access credit. Prior to the economic reforms, the financial sector of the Ghanaian economy was characterised by high default rates, low savings mobilisation rates, credit controls (e.g. sectoral credit ceilings for the

[6] Some of these incentives had been in existence since the 1970s but were not applicable to the NTE sector. Others such as the customs drawback scheme increased from 95% to 100%.

productive sectors of the economy in addition to the direction of credit to specific areas) and high levels of non-performing assets (Aryeetey, 1994, Sowa 2002, Quartey, 2005; Asiedu and Fosu, 2008). In 1986 the Financial Sector Adjustment Programme (FINSAP), 1986-1991, was launched to restructure the entire financial sector. The components included bank restructuring, liberalisation of interest rate determination, the abolition of credit controls and a review of the banking sector's legal and regulatory environment (Sowa, 2002; Asiedu and Fosu, 2008; Leith and Söderling, 2003). The reforms achieved some successes. However, the restructuring of the financial sector failed to significantly change lending flows to the private sector, as rates of savings mobilisation were still low and government borrowing was high (Leith and Söderling, 2003; Quartey, 2005).

Private investors were crowded out, as commercial banks found it less risky and more profitable to lend to the government (World Bank, 2001a; Sowa, 2002). A World Bank report in 2001, on challenges faced by exporters of Ghanaian NTEs, reported that since 1996 the 91-day treasury bill rate had averaged around 20% (in real terms), leading to short-term financing by banks and interest rates charged set above 20% (World Bank, 2001a:7). Thus, as demand for pineapples increased, cash constrained entrepreneurs in the pineapple sector relied on their own finance or informal means of financing exports. Infrastructure was rudimentary both on farms and at the ports. There were no cold storage facilities to maintain the quality of harvested fruits (Dixie and Sergeant, 1998). Fruits were harvested out in the open, packed and transported to the ports in any available vehicle. Furthermore, there was an intense rivalry among exporters, leading to a lack of collaboration.

In 1996 a MNC, Fresh Del Monte Produce (hereafter Del Monte) introduced a new variety of pineapple, MD2, onto the international pineapple market. This is a revolutionary product, which has enabled Del Monte and Costa Rica to totally dominate both the EU and US pineapple market since the mid-2000s. Furthermore, in response to food scares in Europe and the US, the ability to meet food safety and quality standards imposed by retailers have become essential to entry and participation in the global value chain. Thus, since 2005, Ghanaian producers and exporters have struggled to participate in the value chain. Production and export are now concentrated in the hands of a few exporters because small-scale producers and exporters could not bear the high costs of production and meet standards requirements. Exclusion of producers and exporters has implications for the development of the Ghanaian economy, given that the horticulture sector has massive potential for poverty reduction in the country.

1.3 Research Objective, Questions and Hypothesis

As GVCs are constantly restructured and reorganised, there are winners and losers. Suppliers in agri-food value chains are constantly exposed to changing retailer and market requirements that require them to innovate and upgrade. Some actors (suppliers) have been excluded from chains because they were unable to adapt to the changes. For example, changes in characteristics of the product exchanged may cause an increased use of certain inputs, such as labour or finance. The availability of labour may, however, be restricted due to social rules on women working in the chain, while access to finance may be limited due to collateral requirements or perceptions of banking institutions. Changed product characteristics affect suppliers by placing demands on their characteristics (i.e. type of supplier, supplier assets and skills, etc.) and their relationships with each other. However, Humphrey (2006:582) notes that 'meeting the changing demands of global markets does depend to some extent on the capabilities of local agricultural systems to support the technological capabilities of local supply chains.' Hence, local conditions can influence the impact of the demands placed on suppliers.

Using the Global Production Network (GPN) framework, Neilson and Pritchard's (2009) study of the tea and coffee value chains in India, embeds governance and upgrading (development) in local conditions. They view the interaction of global governance and local conditions in the form of 'struggles' in locations. In the process of such struggles, local conditions 'negotiate the ability of governance structures to determine social, economic and environmental outcomes' for chain participants (Neilson and Pritchard, 2009: 2, 12, 24).

This thesis agrees with the view that local conditions can influence characteristics of suppliers and their outcomes from participating in the global chain. At the same time, NIE theories are well suited to an analysis of the role of local conditions in development. Hence, this thesis's main objective is to show, from a NIE, how local conditions shaped governance and development of the Ghanaian pineapple export sector after significant changes in product characteristics occurred. Overall, the thesis is guided by one overarching research question and three secondary questions.

Question: How, and in what way, do local conditions impact or influence value chain governance?

Three secondary research questions were further examined to assist with answering the

overarching research question. They are:

Q1: How, and in what way, do local conditions shape or structure production and exchange relations between and among suppliers at the local level?

H1.1: Local conditions may impose constraints or create opportunities which directly and indirectly influence the behaviour of actors in their interactions.

Q2: What impact do changes in global governance have on production and exchange at the local level?

H2.1: Global governance alters the characteristics of the item exchanged (product characteristics) and elicits corresponding changes in the characteristics of actors in order to meet the new product requirements.

H2:2: Given the existing structure of interactions, the new product characteristics may increase supplier's production and transaction costs.

Q3: How, and in what way, do local conditions negotiate or mediate the impact of new product characteristics on suppliers and the development of the chain?

H3.1: Local conditions may provide an enabling setting for the development of the chain by altering the rules underlying production and exchange in the chain.

A case study methodology primarily involving an analysis of available detailed research and reports on the Ghanaian pineapple sector and semi-structured interviews with exporters, producers, a processor, public officials and industry experts was used to answer the thesis research questions.

1.4 Contribution and Originality

The thesis attempts to contribute to the growing literature on the embedding of GVCs in the local context by making two contributions. First, at the theoretical level, it presents a way to incorporate local conditions into GVC analysis. Cramer (1999) argues that the idea that the scope and extent of development of value chains (upgrading) depend on the strategies or inputs of lead firms is erroneous. Rather, in certain cases, it is local conditions in combination with lead firm strategies that limits development. Also, Selwyn (2012:213) for example, criticises Kaplinsky's (2003) work on upgrading by Costa Rica's coffee and banana producers for not discussing the input of the country's land tenure system and state

investment in upgrading, as these factors impacted the ability of producers to cooperate to mobilise and allocate resources. Although proponents of the GVC claim that it can be applied to interactions at the local level, evolution of GVC governance predicts what happens when complexity of information, codifiability of information and capabilities of supplier's change; but, does not explain how it happens. This is because it does not adequately communicate how global governance of the chain interacts with and transforms transactions taking place at the local level, and vice versa. Through an understanding of the institutional dimension of the GVC as the local context, the study's conceptual framework, based on the Exchange Configuration approach, systematically and coherently embeds the value chain in local conditions and sheds light on the interaction between the global and local levels and the transformation of transactions at the local level.

Second, this study provides empirical evidence by grounding the analysis of governance and development of value chains in social processes at the level of the Ghanaian pineapple export value chain. By analytically emphasising social processes through which items are produced and exchanged, this study enables the GVC framework to offer a balanced explanation of the evolution of governance in value chains.

1.5 Thesis Outline

The rest of the thesis is structured as follows: Chapter 2 aims to show that the institutional dimension of the GVC framework is of greater importance than is usually accorded. Hence, the first and second sections of the chapter introduce the GVC framework: the concept of governance in the framework, including its definition and evolution. Next is a discussion of actors in value chains, the impact of governance on the upgrading of value chains (especially the horticulture or agri-food chain which the thesis is basically concerned with). In the final section of the chapter, the study's contribution to concerns of the institutional dimension is set out. This is done by first defining what institutions are, the types and their nature. Then, using empirical evidence, I show the contribution that local conditions make in the governance of value chains. They impact actors' characteristics and influence production and transaction costs (e.g. costs of market access and participation, costs of standards compliance, marketing costs and distribution of risks) which have implications for the development of the chain.

In Chapter 3, I seek to conceptualise how governance of national value chains is determined by the interaction of global governance with local conditions. Using insights

provided by the Exchange Configuration approach into the organisation and evolution of exchange, I argue that global governance caused a change in the characteristics of the item traded in the Ghanaian pineapple export value chain. This change demanded increased use of certain inputs and hence challenged the competitiveness of the Ghanaian chain. The response of actors to the challenges presented by the changed characteristics of the item was partly dependent on characteristics of the local context. Governance and development of the chain are therefore an outcome of the interaction of (a) characteristics of the item exchanged (b) characteristics of actors and (c) characteristics of the local exchange environment (local conditions).

Chapter 4 involves a detailed account of the evolution of the global pineapple value chain over the last 25 years (1989-2013), with a view of situating Ghana in the chain. Costa Rica and Ghana are the focus of this chapter given the decline of Ghana's sector and the spectacular rise of Costa Rica to dominate exports to both the European Union (EU) and the United States (US) markets. The governance of the international pineapple value chain is discussed, especially regarding the use of product and process standards and changing responsibilities of importers. I introduce the Ghanaian pineapple export value chain in this chapter, along with a discussion on how it has coped with the new rules of production and exchange.

Chapter 5 describes the current value chain structure, case study area, data collection procedures, selection of exporters and farmers and how the data were collected.

Chapter 6 gives a detailed account of how interactions were structured in the Ghanaian pineapple value chain when the Smooth Cayenne variety was the preferred variety on the international market. It takes the form of a historical analysis, using the study's conceptual framework to account for how the interaction of local conditions with characteristics of the actors and item exchanged determined the types of actors who participated in the chain and the nature and structure of interactions (transactions). For example, local conditions motivated actors to structure their interactions in a manner which had a detrimental effect on cooperation and the coordination of the chain. This effect was intensified when the rules of participation changed at the international level.

In Chapter 7, I examine the evolution of governance in the Ghanaian value chain. The discussion focuses on how global governance, that is, the MD2 pineapple variety and the use of standards impacted relationships and hence the development of the chain. The

relationships between actors, both at the vertical and horizontal levels have significantly changed. At the horizontal level, exporters communicate more with each other and have invested in infrastructure while farmer cooperatives are key to participating in the chain. Government, with the support of development agencies, has greatly improved sector level infrastructure and made available subsidies to reduce the costs of production. However, many small and medium-scale farmers have been excluded from the chain primarily because of the inability of local conditions to alleviate the financial burdens of participating in the chain. The few remaining ones meanwhile enjoy formalised contractual relations which now underlie production relations. Unfortunately, in many cases, a contract can still not be used to access finance from financial organisations, highlighting the limitations and lack of innovation in agricultural finance in the country.

Chapter 8 summarises the study's key findings and discusses implications for theory and policy, as well as for future research.

Chapter 2 Global Value Chain Analysis

2.1 Introduction

Participation in global value chains has become synonymous with development. The reason is that although the Global Value Chain (GVC) framework is not a theory of economic development, it has provided insights (which were previously absent) into how countries and industries are integrated and inter-dependent in the current global production and trade structure. Significantly, how transactions or relationships are ordered (governed) in this interaction determines the type and extent of developmental benefits accruing to participating firms, industries and countries. Hence a significant number of studies have focused on what the framework terms 'governance.'

However, some authors (e.g. Thomsen, 2007, Selwyn, 2008, Palpacuer, 2008; Gibbon, 2008; Ramirez and Rainbird, 2012) have argued that the framework's concept of governance does not give a full account of how chains are governed and evolve because the institutional dimension of the framework is underdeveloped or lacks elaboration. Lack of development of this dimension leads Gellert (2003:58) to remark that detailed information on the specific conditions which give rise to particular governance structures go missing.

In this chapter of the thesis, I seek to contribute to the development of the institutional dimension of the GVC framework. The chapter is organised as follows. The first and second sections of the chapter discuss the GCC and GVC frameworks, focusing on their history and the governance concept. The third section identifies actors in GVCs; while the fourth and fifth sections emphasise the relationship between governance and upgrading in agri-food value chains. The sixth section outlines the GPN framework, which sets itself as an alternative to the GVC framework. This is followed by a final section which discusses the limitations of the institutional dimension in GVCs; defines what institutions are, their types and nature; and makes a case for the institutional dimension of the framework to be characterised as the local context.

2.2 Contemporary frameworks for analysing economic development

2.2.1 From the state to lead firms

With increased globalisation, that is, 'the functional integration and coordination of internationally dispersed activities,' (Gereffi, 1999b: 41) traditional theories with the state as

the centrepiece became obsolete and a revision was required (Henderson et al., 2002:437) as MNCs became the primary actors in the organisation of production and trade in the global economy. To effectively oversee production which was fragmented across borders because MNCs had to contend with rising costs of production in view of competitiveness (Gereffi, 2005:165), global governance i.e. rules by which global industries and sectors are organised and managed became central to the operation of the global economy.

2.2.2 Origin of the value chain concept

This section contains a brief overview of the origin of value chains. When the need to formulate an appropriate framework to explain the reorganisation of production and trade arose, researchers from the fields of sociology, geography and business management, took the lead. Here, relationships among and between firms were envisioned as a chain or network construct. The chain or network was analytically termed a value chain.

Michael Porter made the term 'value chain' popular in the book *'Competitive Advantage'* published in 1985; but there is no commonly agreed definition. In Porter's opinion, the value addition activities undertaken by a single firm represented the value chain. These activities, including logistics, marketing, sales and services, gave a firm its competitive advantage. Supporting activities which influenced the value chain included infrastructure, human resource management and procurement.

The frameworks of interest to us (discussed in the next section) have their origins in the development economics literature. Hopkins and Wallerstein (1986, 1994) formulated the concept of a commodity chain, using the World System Theory (WST). A commodity chain was defined as a 'network of labor and production processes whose end result is a finished commodity' (Hopkins and Wallerstein, 1986:159). This meant that a product's commodity chain consisted of all the raw materials, labour, production and labour processes that culminate in the output. In the world capitalist system, firms are located within this commodity chain. Specific production processes were described as 'boxes' (Hopkins and Wallerstein, 1994:18) and the boxes form an interlocking chain because they either produce inputs for others to use or use inputs from others.

The linkages of boxes result in a geographical division of labour, with core activities performed in core countries and lesser functions performed in periphery nations. Within this chain, the boxes are geographically bounded, though changes to the boundary are

possible with technological or social change. The commodity chain construct meant that the entire world system (i.e. the division of labour, labour processes) rather than the state was the unit of analysis.

2.2.3 Global Commodity Chain (GCC)

Gary Gereffi and others in Gereffi and Korzeniewicz (eds.), 1994 took up the concept of commodity chains to build the Global Commodity Chain (GCC) framework. This framework sought to analyse the 'global' economy but unlike Hopkins and Wallerstein, firms rather than the state took up the role of coordinator of production chains. GCC refers to 'sets of interorganisational networks clustered around one commodity or product, linking households, enterprises and states to one another within the world economy' (Gereffi and Korzeniewicz, 1994:2). The chain construct is used to underline the sequential nature of activities carried out by several firms in the production of goods and services (Humphrey and Memodovic, 2006:8)

Initially, Gereffi sought to examine the role of commercial capital (due to the rise of marketers, branders and retailers who usually did not own any production factories), in the spread of production activities across the world, by looking at firm strategies and actions. However, the use of GCC analysis extended beyond this, in part because of changing international trade rules, preference for differentiation products and the rise of the East Asian tigers.

Though similar, GCC analysis differs from the value chain developed by Michael Porter, in terms of concentrating on the network of firms (and not a particular firm) as well as on 'incomplete' firms i.e. firms that specialise in specific functions (Gereffi et al., 2001:2).[7] Also, even though GCC built upon WST, it significantly departs from some of the basic rules which underlie the theory (Bair, 2005:155-157). First is the period of globalisation. Hopkins and Wallerstein (1986) depict globalisation of production not as a recent phenomenon, but rather as one that has been occurring since the 16th century. Gereffi and others, on the other hand, consider it to be as recent as the 20th century. This period of globalisation is marked by significant improvements in communication technology, production techniques, harvesting and post-harvesting techniques, marketing, distribution, transportation and storage (Bair, 2005; Gibbon, Bair and Ponte, 2008:317).

[7] Gereffi's 'value chain' analyses will correspond to Porter's 'value system.' The value system refers to the network of firms (which have an impact on each other), in the production and delivery of a good or service.

Second, unlike WST where development was said to be a 'developmentalist illusion' (Wallerstein, 1994 in Bair, 2005:157) because relations of production and exchange were steeped in exploitation (Arrighi 1990, in Bair, 2005:173), GCC investigates the possibility for firms in developing countries to shift from the performance of lower value activities to higher value ones. WST is concerned with how activities and processes are reconstructed to maintain the pecking order in the global capitalist system; whereas GCC is concerned with how producers or suppliers in developing countries can advance in their activities (Bair, 2005; Gibbon and Ponte, 2005). Thus, a nation can develop by gaining competencies in producing higher value products.

The GCC framework in breaking away from the earlier models of development reflected current international production and trade relationships and it could explain the incorporation of firms and states in production and trade networks in contemporary globalisation (Bair, 2005). Succinctly, Daviron and Gibbon (2002:141) describe the influence of the GCC framework as offering 'radically new approaches to understanding international trade, business networks and 'underdevelopment.'

2.2.4 Global Value Chain (GVC)

Over time, limitations of the GCC framework necessitated its reformulation into the Global Value Chain (GVC). GVCs refer to 'the full range of activities to bring a product from its conception to end use, including design, production, distribution and consumer support' (Lee, Gereffi and Barrientos, 2011:2) and can refer to the global, macro, meso or micro levels. This reformulation broke with not only the theoretical foundations of the original framework but also the analytical focus (Bair, 2008).

Below are some reasons for the reformulation:

(a) There were concerns about the use of the word 'commodity' as it intimated standardised products (Kaplinsky and Morris, 2001:25).

(b) Empirical evidence showed variations in the way in which commodity chains are structured (Fold, 2002).

(c) There was a need to have an industry-neutral typology of governance structures if the framework was to apply to other industries (Sturgeon 2008) since the original GCC

framework favoured the manufacturing industry.

2.2.4.1 Dimensions of GVC framework

Just like the GCC, GVC relies upon four main dimensions: input-output structure, geography, governance and institutional framework.

(a) The Input-Output structure shows the conversion of inputs into output and maps out the value added at each stage of the chain. It does not only deal with the firms in a chain but also supporting industries which aid in the creation of value.

(b) Geography is about the geographical scope of the chain whether national, regional or international

(c) Governance explains how the chain or network is ordered and how rents are shared. Most empirical work using the two frameworks has focused on this pillar (Gibbon, Bair and Ponte, 2008).

(d) The institutional dimension consists of the social, economic and political context in which firms are situated. It influences, for example, inter-firm relationships through the availability and skill of labour, access to finance and the ability to innovate, among others (Gereffi and Fernandez-Stark, 2011:11). Since it was added on after the other dimensions had been conceived, it is the least developed dimension (Bair, 2005:173). Consequently, there are weaknesses with the dimension/framework.

2.3 Governance

2.3.1 Introduction

Williamson (1998:37) defines governance as 'the means by which order is accomplished in a relation in which potential conflict threatens to undo or upset opportunities to realize mutual gains.' One way of achieving order is through rules hence Nadvi (2008:324) defines governance as 'the framework and institutional structures by which rules (which include laws at one extreme and norms at the other) are set and implemented.' In neoclassical economics, a discussion of governance does not take place because, in the market, economic exchange is efficiently carried out under conditions of perfect information. Changes in prices communicate all the factors needed in coordinating an exchange. J.R. Commons in 1932 disagreed with this assertion. In his opinion, impersonal economic exchange requires a focus on the exchange process itself and not the individuals, firms or

commodities involved. The transaction should, therefore, be the principal focus in understanding economic exchange.

Furthermore, Commons believed that every transaction has three potential attributes; conflict, mutuality, and order. These attributes could lead to situations where a transaction will not occur; hence economic theories should stress how order is brought about to organise and sustain production (Williamson, 2000:487). Ronald Coase, in his paper '*The Nature of the Firm'* (1937), argued that exchange is not costless as the neoclassicals suggested. Apart from the cost of production, exchange involves transaction costs associated with, for example, information, negotiation and enforcement. O. E. Williamson took up the concept of transaction costs and used it in formulating the Transactions Cost Economics (TCE) theory where he views governance as a way the three attributes of a transaction can be managed effectively (Williamson, 1999:1088). According to him, due to the presence of transaction costs, firms must evaluate how to organise production i.e. the 'make or buy' decision. The 'make' decision implies that firms will internalise transaction costs and produce in-house while the 'buy' decision is to source from outside the firm. If transaction costs are non-existent or extremely low, firms may decide to buy on the market; if not, they can become vertically integrated backwards and forwards or even laterally, with different sections of the firm producing, marketing and distributing the product.

In the value chain frameworks discussed above, a unifying concept is that of governance. According to Kaplinsky (2000a:122), the governance dimension of the GVC transforms the framework from a heuristic to an analytical tool. However, researchers have interpreted GVC governance in different ways and the concept has evolved over the years. The next section discusses the evolution and interpretations given.

2.3.2 Governance in Value Chain Analysis

With increased production of goods and services from a multiplicity of locations, globalisation is not just the linking of geographical locations, but also the functional integration of activities along the production chain. The need for efficient coordination of different activities across space results in the organisation of production in various ways, but value chain governance has focused on the coordination of production activities exclusively through an inter-firm exchange of information.[8]

[8] However, coordinating and integrating economies all over the world requires a transformation of not just

2.3.3 Theoretical and empirical interpretation of governance in value chain analysis

According to Gibbon, Bair and Ponte (2008), the interpretations of governance in value chains can be summarised in three conceptualisations. Governance as 'driving,' 'coordination' and 'normalisation'.

2.3.3.1 Governance as driving

Much research in value chain analysis is concerned with governance (i.e. the relationships that exist among the various actors in the chain). Governance deals with how firms and organisations exert influence in the chain through setting, enforcement and/or monitoring of parameters (Humphrey and Schmitz, 2001: 20). Implicit in the concept of governance is how an organisation (or firm) exerts power on others in the chain.[9]

Kaplinsky and Morris (2001:29) state that 'governance ensures that interactions between firms along a value chain exhibit some reflection of organisation rather than being simply random.' Therefore, starting with the GCC framework, Gereffi (1994:97) identifies non-market relationships in which governance is 'the authority and power relationships that determine how financial, material and human resources are located and flow within a chain.' Since the theoretical basis of the GCC framework was Economic Sociology, power relations were emphasised in how governance take place and the entities charged with exercising governance were lead firms.

Initially, two ideal types of governance were specified; buyer and producer driven. The specification is based on how lead firms that determined the conditions by which participants were included in the chain or not and the division of labour (Ponte, 2007:4) steered the chain. In producer driven chains, lead firms (industrial capital) are vertically integrated in the entire production chain. Capital-intensive functions are done in-house while labour-intensive processes are subcontracted to suppliers who are hierarchically organised and managed by these firms. Therefore, industrial capital (e.g. MNCs) coordinates and manages the entire commodity chain.

Conversely, buyer-driven firms are prevalent in labour-intensive, consumer-goods

---

inter-firm relations but also rules and organisations at the global and national levels, necessary for an effectively functioning system. Thus, Nadvi (2008) notes that Coe and Hess (2007) points to industrial and political governance; while Gereffi and Mayer (2006) identify market, corporate and industrial governance.

[9] Power could result from control over resources such as finance, skills or the ability to purchase large quantities of a good.

industries, characterised by retailers, marketers and branders (commercial capital). Here lead firms which dominate the higher-end of the chain – marketing, design and branding functions – contract with independent firms. According to Daviron and Gibbon (2002:138), a key feature of the 'buyer–driven' governance structure is the need for product differentiation as opposed to product standardisation when quality becomes a crucial factor in the making of a product. Quality concerns serve as the focal point for the interpretation of governance as normalisation, discussed in section 2.3.3.3.

As time went by, the governance classification used by GCC proved inadequate as empirical studies showed that governance did not occur in all chains in the way envisaged in the framework (Fold 2002; Henderson et al., 2002). For example, in commodity chains, Fold (2002) noted that the form of governance could be 'bi-polar' due to the presence of different lead firms at various sections of the chain. In the cocoa industry, both grinders and branders (manufacturers of chocolate) act as lead firms (Fold, 2002).[10] Also, the prevalence of outsourcing of even core competencies, subcontracting, and the reliance on firms with complementary skills in hitherto producer-driven chains necessitated a change in governance (Sturgeon, 2008).

2.3.3.2 Governance as coordination

Changes to the notion of governance as 'coordination' occurred in the Global Value Chain (GVC) framework. The change took place at both the theoretical and empirical levels. The GVC framework is based on (a) Transaction Cost Economics (TCE), (b) Firm capabilities and learning in Strategic Management and (c) Production networks in New Economic Sociology (Gereffi, Humphrey and Sturgeon, 2005; Sturgeon, 2008; Table 2.1).

[10] The horticulture/agri-food value chain is said to be bi-polar due to the dominance of retailers and marketers on the one hand, and that of highly-vertically integrated fruits and vegetable producers who can determine the varieties of fruits and vegetables in demand on the international market.

Table 2.1: Theoretical literatures underpinning GVC governance structures

Theory	**Key Concept**	**Key authors**
Transaction Cost Economics	Asset specificity	Williamson Coase (1937)
Economic Sociology	Embeddedness Trust	Granovetter (1985)
Firm Capabilities and Learning	Resource view of the firm Learning Core competencies	Penrose (1959, 2009) Barnay (1991)
Production Network	Networks Repeated transactions Reputation	Powell (1990), Thorelli (1986)

Source: Frederick (2010)

In this framework, governance was no longer envisioned as 'driving' the entire chain but as 'coordination' (Gibbon, Bair and Ponte, 2008:322) because it deals with specific nodes or segments of the chain. The organisation of production chains depends on the transaction costs (both ex-ante and ex-post) involved and the nature of relationship-specific investments (Gereffi, Humphrey and Sturgeon, 2005:78). Thus, the primary variable determining the extent of 'coordination' is asset specificity; particularly in the form of industry or process characteristics that influence a transaction.[11] Opportunistic behaviour of economic actors and the frequency of transactions also influence the type of governance chosen. Asset specificity can be in the form of physical investments, equipment, brand name, human assets, and financial capital, among others (Williamson, 1999; Ruester, 2010). Hence, in line with TCE theory, the governance structures (institutional arrangements) are 'efficient solutions to structural challenges'[12] (Gibbon, Bair and Ponte, 2008:323).

In TCE, governance structures are a continuum from market to hierarchy. Between the two extremes lie hybrid governance forms such as bilateral contracts, networks and joint ventures. In similar fashion, GVC governance structures range from market to hierarchy with modular, relational and captive governance in between. The network forms of governance (modular, relational and captive) are the focus of GVC studies and were formulated based on empirical knowledge. Empirically, it was found that even in cases of high asset specificity; firms were engaging in partnerships for production. This led Gereffi,

[11] The TCE literature is a school of thought in New Institutional Economics. It regards asset specificity as the key determinant of the boundaries of the firm (i.e. whether a firm decides to produce in-house or buy on the market).

[12] See Bair and Dussel Peters, 2006; Ponte, 2007, for objections to whether the structural constraints conceived of in the GVC framework are really constraints.

Humphrey and Sturgeon (2005:81) to argue that 'asset specificity, opportunism, and coordination costs can be managed at the inter-firm level through a variety of methods.'

Theoretically, inter-firm solutions to why inter-firm relations exist regardless of asset specificity were found in New Economic Sociology's concept of 'embeddedness' and 'networks' (Granovetter, 1985; Powell, 1990; Thorelli, 1986) and firm capability and learning (Penrose, 2009). New economic sociology stresses that ongoing personal relations embedded in the social context cause trust, which help reduce the propensity for economic agents to be opportunistic (Granovetter, 1985:490-491). Hence Gereffi, Humphrey and Sturgeon (2005:81) note that 'network actors in many instances control opportunism through the effects of repeat transactions, reputation and social norms that are embedded in particular geographic locations or social groups.' The ability of firms to learn and improve upon their capabilities is based on the resource-based view of the firm in Strategic Management. Here, the firm's resources (personnel, knowledge, skills, etc.) and characteristics are the focus of analysis. The basic underlying principle is that the resources of a firm determine its capabilities and therefore its competitive advantage. These resources are unique and not easily substituted (Barnay 1991 in Sirmon, Hitt and Ireland, 2007: 273).

The characteristics of a transaction that influenced the type of governance structure in the face of asset specificity were empirically determined. Sturgeon (2002) working on the electronics manufacturing sector was instrumental in identifying a form of governance (modular) where the asset specificity problem was minimised through industry standards which made it easier to codify (write down) information. Therefore, in his view, 'trust, reputation and long-term relationships are not the only way to buoy external economies' (Sturgeon, 2002:.480). Furthermore, the parties to the exchange have complementary skills. He noted that computer companies like Dell did not necessarily outsource low profit jobs to suppliers, but rather these suppliers had high levels of competencies in complementary skills that were required by the lead firms. These skills allowed lead firms to specify their requirements in highly codified forms without the need for face-to-face interactions. Also, Humphrey and Schmitz (2002) show that suppliers with low-level of skills were utterly dependent on the lead firm in the governance relationship. Thus, economic sociology, production networks and the resource-based view of the firm informed the GVC's 'network' forms of governance.

In market-based governance, perfect information eliminates the need for the sharing of

product specific information. However, since products in the value chain are made to satisfy specific requirements of particular buyers, information is not freely available and shared. The type of information, its characteristics, availability, ease of transfer and capabilities to assimilate and use it becomes necessary. Therefore, based on a binary measurement of high or low, the characteristics of a transaction needed to determine the type of governance in the relationship are given as; Complexity, Codification and Capabilities.

(a) Complexity – Refers to the degree of information and knowledge transfer needed to support and maintain a particular transaction. The key factor determining complexity is asset specificity, which may create avenues for opportunistic behaviour. In situations where complexity is high, the lead firm will exert greater coordination over the chain.

(b) Codification- Refers to the extent to which information and knowledge required for a transaction are shared easily and efficiently between buyers and suppliers. It may involve writing down information to make is easily acquired and transferred, and therefore codified knowledge can be 'transmitted in a formal systematic language' (Niedergassel, 2011:61). Databases, archives and documents contain codified or explicit knowledge (Nonaka, 1994:17). Increasing codification implies that labour must be skilled in assessing and putting the knowledge into practice.

(c) Capabilities – This refers to the real and likely (latent) abilities of suppliers to meet transaction requirements for an exchange to occur. As indicated above, lead firms require products made in a certain way, at a particular time and with specific inputs. The ability of suppliers to meet these requirements depends on their capabilities. Hence, capabilities may refer to skills, labour, finance, accessibility to inputs, among others. Capabilities also determine the extent of subordination to buyers (Gereffi, Humphrey and Sturgeon, 2005:83).

The three variables, measured as high or low, give rise to five governance structures; market, modular, relational, captive and hierarchy (Tables 2.2 and 2.3).[13]

[13] Eight possible governance structures were realised but only five were empirically feasible.

Table 2.2: Types of governance in the GVC framework

Key Variable	Complexity of information	Codifiability of information	Capabilities of suppliers	Degree of explicit coordination and power asymmetry
Market	Low	High	High	Low  High
Modular	High	High	High	
Relational	High	Low	High	
Captive	High	High	Low	
Hierarchy	High	Low	Low	

Source: Gereffi, Humphrey and Sturgeon (2005:87)

Table 2.3: GVC governance structures and their characteristics

Governance Structure	**Characteristics of the Relationship**
Market	Governed by price relations; little explicit coordination required between buyers and sellers; low costs of switching partners
Modular	Highly competent suppliers; the ability to codify information through industry standards means interactions between buyers and suppliers need not be on a face-to-face basis; low costs of switching partners
Relational	Exchange of tacit information; mutual dependency between buyers and sellers leads to the use of trust, reputation, family ties; spatial proximity to regulate the relationship; exchange of tacit information done through face-to-face interactions; high costs of switching partners
Captive	Low competences of suppliers mean significant dependence on buyers; detailed monitoring of suppliers by buyers; high costs of switching partners faced by suppliers
Hierarchy	Vertical integration of stages of production

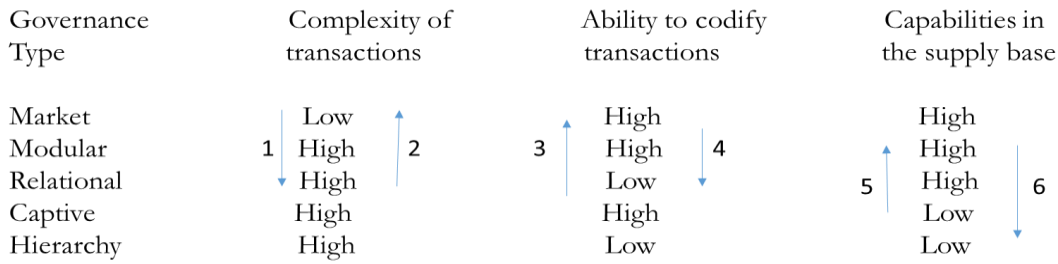
Source: Gereffi, Humphrey and Sturgeon (2005:86-87)

On the other hand, Humphrey and Schmitz (2000, 2001), coming from an industrial cluster

background, focus on the risk of supplier failure as the main driver of governance.[14] The risk of supplier failure has increased since non-price competition (quality, reliability of deliveries, timeliness of deliveries) became vital to global trade.

Since information sharing and supplier capabilities are the critical determinants of governance, changes in GVC governance occur as these factors change (Figure 2.1). For example, when standards increase the codifiability of information, it is likely that governance will move towards market governance and when suppliers in captive governance increase their capabilities, governance is likely to move towards relational and/or modular. Nadvi (2008:332-334) however argues that the ability of standards requirements (due to increased codification) to move governance to either modular or market-based (i.e. one requiring less coordination by the lead firm) may depend on commercial factors, risk and the capabilities of suppliers. In the this study, these factors are influenced by local conditions.

Figure 2.1: Evolution of GVC governance



Note: 1: Increasing complexity of transactions also reduces supplier competence in relation to new demands. 2: Decreasing complexity of transactions and greater ease of codification. 3: Better codification of transactions. 4: De-codification of transactions. 5: Increasing supplier competence. 6: Decreasing supplier competence

Source: Gereffi, Humphrey and Sturgeon (2005:90)

2.3.3.3 Governance as normalisation

Governance as normalisation perceives inter-firm relations in the wider normative context (Gibbon, Bair and Ponte, 2008: 324). It is theoretically rooted in Convention theory, which is a French Institutionalist approach to the coordination of economic activities. Convention theory rejects the neoclassical theory of economic agents having full and complete information and rather asserts that in situations of asymmetric and incomplete

[14] Morrison, Pietrobelli and Rabellotti (2008:44) broadly classify GVC scholars into two groups: (a) the internationalists, who have a macro approach to value chains, e.g. G. Gereffi, R. Kaplinsky, P. Gibbon and (b) the industrialists, who take a micro approach to value chains by focusing on local and cluster development, e.g. J. Humphrey and H. Schmitz

information; socially defined rules (or conventions) assist in exchange. Thus, it rejects the notion that price signals are enough to coordinate exchange and seeks to promote other non-price signals. When applied to GVC, it seeks to 'elaborate an account both of the immediate normative environment within which value chain actors operate (that is, in relation to their functional statuses as buyers or suppliers) and the broader normative frameworks influencing the designations attached to the products and services they exchange within GVCs' (Gibbon, Bair and Ponte, 2008:324).

Convention theory is interested in the communication of product quality between buyers and suppliers. In GVC, the focus is on the standardisation of products (through third-party actors) and industry norms. The increased use of private standards that entail detailed product specific knowledge increases the asset specificity characteristic of production, making its communication important to the coordination of value chains.

The retail sector links downstream participants (consumers) of an industry to upstream participants (producers). Since the 1990s, retailers in product markets have increased their market shares. Dolan and Humphrey (2000:148) assert that the top five supermarkets had more than a 50% share of the food market in 1996 in all European Union countries except Greece, Italy and Spain. In the UK, supermarkets grew to dominate the food retail market in the 1980s and 1990s and by 1997, had a 73% share of the food retail market. As they increased their knowledge of consumer wants, in turn, they required a differentiation of their products.

Private standards introduced include GLOBALGAP, British Retail Consortium (BRC), International Food Standards (IFS) and Tesco's Natures Choice. These standards are 'voluntary' and usually go beyond what public standards require such as traceability by including processing methods and labour standards. Fruits and vegetables such as pineapple, mango, grapes, and chilli are under these standards and so is livestock.[15] As retailers exert greater influence in the horticulture supply chain, there is fear of consolidation by large firms and/or MNCs to the exclusion of smallholders. This is because investments required to comply with standards certification are high and principles of 'traceability' favour transactions between retailers and large firms (Dolan, Humphrey

[15] The standards are voluntary in that you only have to adhere to them if you want to supply these retailers. Dolan, Humphrey and Harris-Pascal, 1999, show that the requirements of large UK supermarkets act as a barrier to smallholder participation in the vegetable supply chain in Kenya.

and Harris-Pascal, 1999; Dolan and Humphrey, 2000).[16]

2.4 Actors in Value chains

2.4.1 Lead Firms

Lead firms in GVCs are the firms that have the power to govern entire value chains. They do not have to own the production facilities, but they determine who participates, what is produced, how it is produced and when it is produced (Humphrey and Schmitz, 2001:21-11). Lead firms are generally located in developed economies and they, 'at the very least, set product strategy, place orders, and take financial responsibility for the goods and services that their supply chains churn out' (Sturgeon, 2008:22). There are two ways by which lead firms coordinate the chain i.e. control suppliers without owning production facilities; (1) through the huge volume of purchases they make or economies of scale (2) through market power (Humphrey and Schmitz, 2001; Sturgeon, 2008).

Nonetheless, it is not only lead firms that may set the rules of participation, especially concerning production processes such as packaging and labelling. Organisations external to the chain may do this, but lead firms are required to enforce and/or monitor the parameters. For example, due to the food scares in the 1990s in Europe, the UK government made laws that resulted in the devolution of power to supermarkets in ensuring that all food they imported met the government food and safety standards. Supermarkets were to be liable for any breaches.

Since governance requires asset specific investments and therefore can be expensive, Humphrey and Schmitz (2001:23) ask why lead firms undertake it. They do so to minimise the risks of failure by suppliers (Humphrey and Schmitz, 2000; 2001) or hasten the rate of product and process development (Morrison, Pietrobelli and Rabellotti, 2008:46). It is therefore not surprising that UNECA (2013:85) describes the term lead firms as a 'political economy term and not a normative term implying benevolence.' The decisions and strategies taken by these lead firms have a profound impact on the development of participating firms and countries as they influence, for example, the distribution of rents in the value chain and generally, the development of value chains in developing countries.

Understandably, lead firms gain the most rent in the value chain. Rent comes from unequal

[16] The definition for smallholder is not universal, but generally, it refers to a farm of less than 10 hectares and relying mainly on family labour.

access to a valuable factor of production; therefore, those who can extract more rent from the value chain are those who control most of the valuable resources (Kaplinsky, 2000a:122). At the same time, since scarcity of a factor of production can be constructed, lead firms can extract high rents from higher value activities, such as marketing and branding, by blocking suppliers' access to these activities (Kaplinsky, 2000a). For example, Dolan and Humphrey, 2000, Schmitz and Knorringa, 2000, show that lead firms can influence existing and potential capabilities of their suppliers in developing countries while at the same time, erecting barriers to entry to their participation in higher value added activities in the chain.

2.4.2 Suppliers

Suppliers refer to all other firms apart from lead firms. First-tier suppliers refer to those from whom lead firms directly source products and services. They may be importers, intermediaries, manufacturers and licensed agents. First tier suppliers contract with several second and third tier suppliers to meet the needs of lead firms.

Over time, the role of first-tier suppliers in the chain has evolved. Lead firms have devolved management of aspects of the chain such as logistics to suppliers (Dolan and Humphrey, 2000; Humphrey and Memodovic, 2006). This increased responsibility comes with the risk of marginalisation and exclusion from the chain for suppliers who are unable to keep up (Gibbon and Ponte, 2005 in Pietrobelli, 2008).

Suppliers may also have some power in the chain. The difference in the power exercised by suppliers to lead firms is that it generally does not allow them to determine where, how and when products are made (Sturgeon, 2008:23). The following are the types and sources of supplier power.

- Platform leadership is the strongest form of supplier power. It stems from exceptional marketing and technological capabilities, which allows them the power to set certain parameters in the chain (Sturgeon, 2008:23). Platform leaders do not have the purchasing power of lead firms, but they are strongly able to influence the type of product that a chain produces. It leads Fold (2002) to describe some value chain governance as 'bi-polar.'
- Competence power is an outcome of having certain technical and service capabilities, which are difficult to replace (Sturgeon, 2008:23).

In national or domestic value chains in developing countries, there is most likely no lead firm or supplier with platform power (Sturgeon, 2008).

2.5 Upgrading

Governance has 'far-reaching consequences for developing countries, among others, affecting the degree of inclusion of poor producers, their income earning opportunities, the allocation of risks, and consumer prices' (Altenburg, 2006:449). Notwithstanding the above statement, the main implication of governance in value chain analysis is said to be upgrading. Economic upgrading or simply upgrading involves 'moving up' the chain. It is 'the process by which economic actors – firms and workers – move from low-value to relatively high-value activities in global production networks' (Gereffi 2005:171). Gereffi (1999b) in a study of the East Asia apparel chain identifies lead firms as promoting upgrading of their suppliers.

Humphrey and Schmitz (2002) identify four types of upgrading:

(i) Process upgrading involves an improvement in the efficiency of production processes and may involve substituting capital for labour.
(ii) Product upgrading refers to the production of higher-value products.
(iii) Functional upgrading involves firms moving into the performance of functions in the production of higher-value products.
(iv) Intersectoral or chain upgrading involves moving into a different sector using the knowledge acquired in a particular chain. The firm, therefore, adapts its capabilities from one sector to another.[17]

Initially, upgrading was viewed in terms of knowledge and information flows from lead firms to suppliers (Gibbon, 2008:44) and was thought of as always beneficial to suppliers. However, studies have shown that it is not always so (e.g. Barrientos and Kritzinger 2004). Although upgrading is the result of learning and innovation in the value chain, the extent to which this occurs largely depends on the type of governance structure, under which the firm operates (Dolan and Humphrey, 2000; Henderson et al., 2002; Bazan and Navas-Alemán, 2004).[18] For example, Bazan and Navas-Alemán (2004) show that in the Sinos

[17] Ponte and Ewert (2009:1639) comment on the ambiguity of intersectoral upgrading since it does not specify which particular aspect of the business is upgraded.
[18] Guiliani, Pietrobelli and Rabelotti (2005:552) define upgrading as innovating to increase value added. They go on to say that this definition does not mean that firms have to come up with new products or processes

Valley footwear value chain in Brazil, local producers who were in quasi-hierarchical governance relationship with buyers in the US were privy to product and process upgrading (which served the interest of the buyers), but not functional upgrading (which would have served the interest of the producers). Conversely, when market relations characterise the relationship between suppliers and buyers, functional upgrading is possible (Humphrey and Schmitz, 2002; Bazan and Navas-Alemán, 2004). In addition, the type of knowledge transferred is a determinant of upgrading. When buyers need to transfer tacit knowledge to their suppliers, they may be more inclined to assist their suppliers (Giuliani, Pietrobelli and Rabellotti, 2005; Morrison, Pietrobelli and Rabellotti, 2008).

Arguing against the notion that upgrading is always initiated by and depends on the knowledge flows from lead firms, Morrison, Pietrobelli and Rabellotti (2008) note that local firms must invest in certain capabilities before their successful integration into GVCs. Also, Saliola and Zanfei, 2009, mention that upgrading depends on the rate of adaptability and the capabilities of suppliers to use the knowledge transferred. In line with Gibbon's (2008) claim that the capabilities of suppliers may reflect the environment in which the chain is located, this thesis postulates that embeddedness of value chains plays a role in upgrading.

Another criticism levelled against the upgrading as 'moving-up' concept is that upgrading may still limit a firm's competitiveness to its former position in the chain. Meyer - Stamer (2009:328-330) argues that upgrading should be perceived as a relational concept that considers the competitiveness of a firm relative to its main rivals or competitors, rather than its previous position in the chain. This point is especially worthwhile when the ability of a chain to deliver developmental benefits to an economy in the face of new actors (e.g. countries or firms in other countries) entering the chain is the focus of research (Dussel-Peters, 2008).

Selwyn (2008) and Whitfield (2012) also comment that although upgrading is seen as essential to suppliers in the value chain, the GVC framework does not clarify how and why upgrading takes place when lead firms are not the facilitators of upgrading.

---

before they upgrade, but rather refers to minor changes by firms in their processes and products that allow them to perform better, whether financially or output wise.

2.6 Governance and Upgrading in the Horticulture/Agri-Food Value Chain[19]

The GVC literature notes that governance of agri-food value chains is principally exercised by retailers (lead firms). They set the rules on what is to be produced, how it should be produced and other parameters (especially price). Reasons for setting rules include the need for product differentiation, increasing income levels of consumers, concerns about the capacity of developing countries to export food which is safe for consumption and retailer strategies to lower costs (e.g. inventory and labour costs).[20] At the same time, retailers need to ensure that their suppliers can deliver produce in a reliable, predictable and timely manner (Taglioni and Winkler, 2014:2). Thus, governance in these chains has evolved from arms-length (market) transactions to non-market transactions.

The ability of retailers to govern the chain stems from the power they exert on it. Power in the GVC framework is regarded as (a) the ability to ensure consequences along the chain and (b) the ability to actively manage or coordinate the operations of the different nodes within the chain to ensure that consequences are met (Kaplinsky and Morris, 2001: 29-30). The power of retailers has two sources; economic (market) power i.e. the ability to purchase large amounts of produce and control over knowledge or information e.g. about consumer wants.

At the global level, retailers in fruit and vegetable value chains stipulate the rules of participation especially using standards (see Chapter 4). Such standards specify rules regarding the size of the product, colour, absence of blemish, input use e.g. labour and other conditions (Table 4.6). In exercising power this way, retailers do not have to own or make direct investments into production entities. Rather, these rules impose both production and transaction costs on small producers and exporters who may then be excluded from the chain because they are unable to meet the requirements set out.

[19] Others frameworks that employ the chain or network concept include: (a) Filière approach developed by researchers at the Institute National de la Recherche Agronomique (INRA) and the Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD) (b) Commodity systems analysis by William Friedland (c) Systems of provision approach (SOP) by B. Fine and Ellen Leopold. These approaches are distinct from the value chain approach discussed. The filière approach, for example, does not apply to any specific period and is significantly influenced by the needs of the French colonial government in developing countries (Raikes et al., 2008). SOP integrates the production and consumption spheres of a commodity. It seeks to analyse how the configuration of or organisation of production influences how a commodity is consumed.

The use of standards in high-value fruit and vegetable chains implies that small producers and exporters must engage in process and product upgrading. However, some forms of upgrading may not be possible (Pietrobelli and Rabellotti 2004; Bernstein and Campling, 2006) partly because of the additional costs imposed by complying with standards (Ponte and Ewert, 2009:1638).[21] Thus, in agreement with Morrison, Pietrobelli and Rabellotti (2008:41), Ponte and Ewert (2009:1637) concede that 'going up the ladder' is not the only way by which upgrading can take place. Upgrading can also be in the form of deepening capabilities at the same stage of production or 'going down' the ladder.

Building on the initial upgrading trajectories offered by Gibbon (2001a), Ponte and Ewert (2009:1647) classify upgrading in the agri-food chain to include what the 'traditional' upgrading literature will term as downgrading:

(a) Product upgrading should include effects that do not necessarily improve upon the product quality itself. It may include strategies, which increase volumes, consistency of supply and improvements in forward contracts. However, Gibbon (2001a) notes that, this does not lend much support to forward linkages.

(b) Process upgrading should encompass not only how to efficiently produce a good but also environmental and logistics management which helps advance the position of firms in the value chain.

(c) 'Downgrading' which may refer to producing or selling more products in lower segments of the markets, for example, the domestic market, should be considered together with upgrading when looking at functional and product upgrading.[22]

2.7 Levels of analysis in GVCs

According to Sturgeon (2009:123), the analytical level of the GVC framework is not restricted to the global level, as 'the word global in global value chains simply signals our interest in value chains that include an element of vast distance.' Thus, value chain researchers have focused on:

[21] Gibbon (2003:18) also points out that in horticulture or agri-food value chains, it is often difficult to differentiate between some of the upgrading stages identified by GVCs. For example, should the introduction of organic processes which bring about a new product be categorised as product or process upgrading.

[22] In the Italian tile industry, producers pursued a dual strategy of downgrading and product upgrading (Meyer-Stamer et al., 2001 in Meyer-Stamer, 2009:331)

(a) The Geographic level e.g. Global (Fold, 2002; Frederick and Gereffi, 2011), Regional (WEF, 2012; Bamber et al., 2013), National (Ponte, 2007; Thomsen, 2007; Kirimi et al., 2011; van Wijk and Kwakkenbos, 2012)

(b) Industry or sectoral level e.g. Apparel (Gereffi and Memedovic, 2003), Call Centres (Staritz and Reis, 2013), Wine (Ponte, 2007), Horticulture (Dolan and Humphrey, 2000; Humphrey and Memodovic, 2006).

(c) Type of product or service – Finished product (Navas-Alemán, 2011), Intermediate product (Goes and van Dijk, 2012), End-of-life goods (Crang et al., 2013).

(d) It may also investigate the relationship between specific chain participants or the entire chain i.e. the focus can be on a two-way relationship (dyadic level) or on the entire chain (Croom, Romano, and Giannakis, 2000).

2.8 Alternative Framework – Global Production Network (GPN)

The GCC/GVC framework is not the only one designed to provide an insightful analysis into the organisation of production in the current era of globalisation. The GPN framework developed by economic geographers at the University of Manchester is an alternative framework (Figure 2.2). It seeks to extend the analytical account of GVCs by focusing on elements the GVC leaves out in the organisation of production or its biases (Gibbon, Bair and Ponte, 2008:316).

As an alternative framework, GPN seeks to evaluate the gaps in the GCC/GVC framework and rectify it (Henderson et al., 2002), by employing a relational view to the organisation of production. These gaps include: (a) the underdeveloped dimension of geography (territory). GCC/GVC is said to be 'dealt with at a very high level of spatial aggregation' (Dicken et al., 2001:99). This leads Bair (2008:357) to describe it as 'placeless' and the institutional and regulatory context of GVC framework as weak. In addition, GPN proponents argue that a devotion to the governance concept leaves the GCC/GVC framework unable to appreciate the role that the institutional dimension plays, especially the role of the state and other important actors (Dicken et al., 2001; Henderson et al., 2002; Bair, 2005, Smith et al., 2002).

The main feature distinguishing the GPN from the GCC/GVC is the focus on the macro level (country/territory) context of a value chain by incorporating the specific roles of

other actors such as the state, NGOs, trade unions and societal norms within a geographical setting. However, the GVC and GPN have some similarities (Oro and Pritchard, 2011). First, epistemologically, both frameworks try to explain 'the social and developmental dynamics of contemporary capitalism at the global-local nexus' (Bair, 2005:154); secondly, both use variants of the network concept (Coe, Dicken and Hess, 2008).

The theoretical literature establishing GPN are: (1) Varieties of Capitalism (VoC) (2) Actor Network Theory (ANT) (3) Business School literature (especially the value chain concept of Michael Porter) (4) New Economic Sociology (5) GCC/GVC framework (Henderson et al., 2002; Hess and Yeung, 2006).

The Actor-Network Theory (ANT), which explains a network as a mix of human and non-human actors (Dicken et al., 2001:101-102) coupled with the territorial bias of the framework, allows the GPN to circumnavigate the network problem in Granvotter's definition. By emphasising the embedding of economic activities in a 'spatial' setting rather than social ties, the concept of space is viewed in 'relational' rather than absolute terms. Therefore, the framework transcends a geographical setting and views embeddedness in terms of relations with organisations external to the sector (geographically and functionally). In addition, territorial embeddedness implies implicit local knowledge known to the people and organisations operating within the territory.

In Economic Geography, 'relationality' and 'relational turn' (Boggs and Rantisi, 2003; Yeung, 2005) are terms used to describe the theoretical orientation where the social relations of production have become the unit of analysis, instead of the transaction itself. This theoretical orientation makes use of both the notions of networks and embeddedness, but focuses on the global rather than the micro-sociological relations of production.[23]

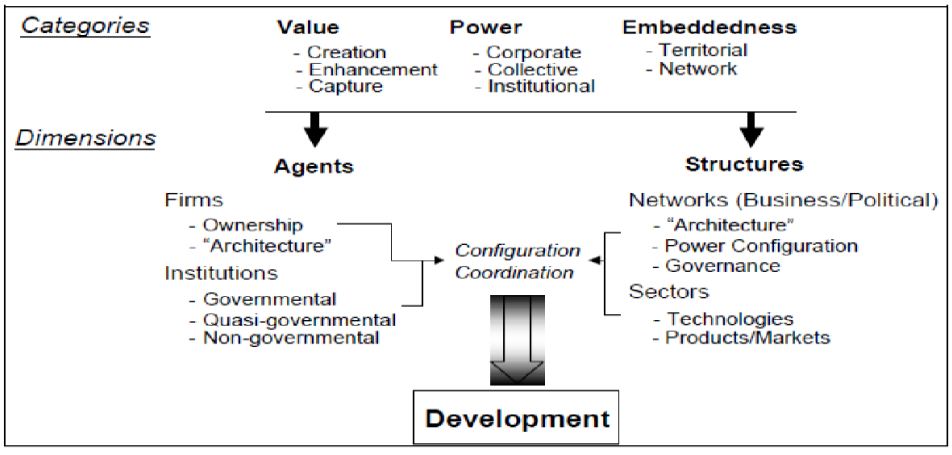
Yeung (2005:37) notes that the GPN in 'relational economic geography is concerned primarily with the ways in which socio-spatial relations of actors are intertwined with broader structures and processes of economic change at various geographic scales.' A GPN is conceptualised as a network of 'relational processes and structures' (Dicken et al, 2001:92) paying attention to the social processes and interactions between participants in

[23] According to Boggs and Rantisi (2003:109), this change in emphasis in economic geography happened at a time when there were major changes in the organisation of production, globally. Most importantly, the new forms of organising production did not need a physical presence and went beyond just contractual changes to include, for example, knowledge transfer and skills upgrading.

the network rather than on the commodity itself (Hughes, Wrigley and Buttle, 2008) thereby espousing its horizontal linkages (Dicken et al, 2001:91). Conflict, bargaining and power relations are brought back into the governance of value chains (Dicken et al., 2001:93) because institutions are 'perceived as social and political formations – be they sub-national, national or international – with attendant histories, values and cultural practices which have consequences for how GPNs are formed and develop over time.' (Henderson et al, 2002:460). They are thus contested and embedded at the territorial, network and societal levels (Henderson et al., 2002; Hess, 2004).

Studies using the GPN approach have given emphasis to both economic and non-economic factors and formal and informal institutions, affecting the organisation of production and thus the development of industries, firms and nations (Henderson et al., 2002). For example, GPN assesses the role played by international organisations, such as the WTO, and the state in the governance of value chain whereas the GVC framework does not (Gibbon, Bair and Ponte, 2008). Also, in linking governance and upgrading through institutions, the 'Capturing the Gains' project under the GPN framework, introduced the concept of social upgrading in value chain analysis (Barrientos, Gereffi and Rossi, 2011). Social upgrading is labour focused and seeks to assess how economic upgrading leads to social upgrading in terms of employment conditions and living standards. Issues including worker rights, bargaining power and skills development are highlighted, drawing attention to the role of organisations such as labour unions and NGOs.

Figure 2.2: Diagrammatical representation of GPN Framework



Source: Henderson et al., (2002:448)

Although a strength of the GPN framework is its focus on embeddedness of the value chain, it has a less defined structure of lead firm governance (Parrilli, Nadvi and Yeung, 2013). The chain under consideration in this study, though embedded in local conditions, is significantly impacted by vertical relationships driven by lead firms. Since the goal of this thesis is to explore how global governance (by lead firms) interacts with the local context, the GVC framework is more applicable to this study.

2.9 The Institutional Dimension in GVCs

2.9.1 What are Institutions?

In the GVC framework, the institutional arrangement between firms is the focus of analysis. The main defining trait of an actor's ability to govern is power. Power (or lack thereof) enables (or limits) what actors in the chain can do. Thorelli, (1986:38) defines power as 'the ability to influence the decisions or actions of others.' Power in the GVC is regarded as (a) the ability to ensure consequences along the chain; and (b) the ability to actively manage or coordinate the operations of the different nodes within the chain to ensure that consequences are met (Kaplinsky and Morris, 2001: 29-30). Lead firms have market power i.e. the ability to purchase large amounts of the product and this enables them to dictate the activities of their suppliers. Also, they exercise power through their knowledge of consumer demand and the imposition of product and process standards.

Critics of the GVC framework remark that GVC governance is embedded in the institutional context in which it operates (Henderson et al., 2002). That is, it is influenced by the cultural, economic, social and political context of the place it is situated in. In response, proponents of the GVC framework note that the institutional context affects chain governance (e.g. Gereffi and Fernandez-Stark, 2011). But the mechanisms by which it does so are not well articulated (Morrison, Pietrobelli and Rabellotti, 2008). One likely reason why is that the institutional dimension is broadly defined, with no consensus on what it refers to (Sturgeon, 2008:25). While Gereffi (1995 in Thomsen, 2007; Bair, 2008) defines it as 'rules of the game,' Coe, Kelly and Yeung (2007: 97) referred to it as 'local, national and international conditions and policies' and Gibbon (2001a:347) suggested that it referred to '…conditions under which control over market access and information are exercised on the global plane'.

Insights from New Institutional Economics (NIE) can point us in the right direction as to

what the institutional dimension is.[24] North's (1990:3) widely acknowledge definition of institutions is: 'the rules of the game in a society or, more formally ... the humanly devised constraints that shape human interaction. In consequence, they structure incentives in human exchange, whether political, social or economic.' Three key points are noted in this definition; (a) institutions are humanly devised (b) they act as constraints and (c) they shape incentives.[25] Another characteristic of institutions is their endogenous or exogenous nature. It is endogenous when the actor exerts control over it, and vice versa. For North (1990), the primary function of institutions is to reduce uncertainty in the way in which exchange takes place. Although institutions provide incentives or motivations for decisions and choices of actors and therefore reduce the costs of transacting, they are not necessarily efficient. There are also costs of institutions. These include the costs of negotiating, monitoring and enforcement of rules. Earlier on, North assumed that relative price changes were responsible for institutional change. However, in North (1990:6), he notes that institutional change is driven factors such as formal and informal rules and the manner in which society enforces rules. When the benefits to be derived from institutions are greater than the costs, institutions emerge and persist.

In the Game theory, economic agents are rational and seek to maximise utility. For an institution to occur, certain conditions relating to beliefs and preferences are imposed: (a) there is a set of players (b) there is a set of choices or preferences for actors to select from and (c) rules outside the game being played are assumed to be 'rules of the game' and exogenous to the players.[26] Through players' interactions, all players have common knowledge of the game and also have shared knowledge. From this, actors make their choices and this is how an institution is selected. The selected institution is said to be efficient (i.e. a Nash equilibrium) since no player in the game has the incentive to change his choice because such choices reflect the best possible move given available resources and the expected behaviour of others (Grief, 2006; Aoki, 2007). People behave the way they do in response to an institution because they expect others to behave in a certain way. Thus, it is the regularity of behaviour brought on by the rule that motivates economic

[24] Institutional Economics can be broadly classified into two; Old Institutional Economics (OIE) and New Institutional Economics (NIE)

[25] J.R. Commons in the OIE tradition viewed institutions as having a dual purpose of enabling and hindering action: thus, he defines it as 'collective action in the control and the liberation of the individual action' (Commons, 1931 in Rossiaud and Locatelli, 2010:2).

[26] Rules of the game are stable and do not influence the players in the game although the players are aware of them.

agents to obey the rule (institution). Game theoretic forms of institutions are however criticised for their inability to explain institutional change, even though they may be good at explaining the enforcement of institutions.

Starting with the idea that an institution is an equilibrium A. Grief and M. Aoki formulated the endogenous institutional change theories of Comparative and Historical Institutional Analysis and Comparative Institutional Analysis, respectively. Grief (2006:30) defines an institution as 'a system of rules, beliefs, norms and organizations that together generate a regularity of (social) behavior:' while for Aoki (2007:6) they are 'self-sustaining, salient patterns of social interactions, as represented by meaningful rules that every agent knows and are incorporated as agents' shared beliefs about how the game is played and to be played.' Unlike game theory, however, institutions are not necessarily efficient, and they are endogenously determined by the outcomes of the interactions of actors.

Scott (2008), in the Sociological or Organisational Institutionalism tradition in Sociology, also identifies three pillars of institutions; regulative, normative and cultural-cognitive. These dimensions are on a scale 'from the conscious to the unconscious, from the legally enforced to the taken for granted' (Hoffman, 1997:36, in Scott, 2008). The regulative dimension stresses rule setting, monitoring and sanctioning; the normative dimension prescribes how actors should behave; while the cultural-cognitive dimension describes how actors behave, usually because it is how they have always done (Scott, 2008).[27] The cultural-cognitive dimension contains 'symbols'- words, signs, gestures which are representations of the actual world. Everyone is shaped by the symbols because the individual has a 'subjective' interpretation of these representations: while at the same time, since the representations are available to other individuals, they are deemed to be 'objective.' The cultural-cognitive dimension thus stresses the common meaning of situations which are socially facilitated (Scott, 2008:59).

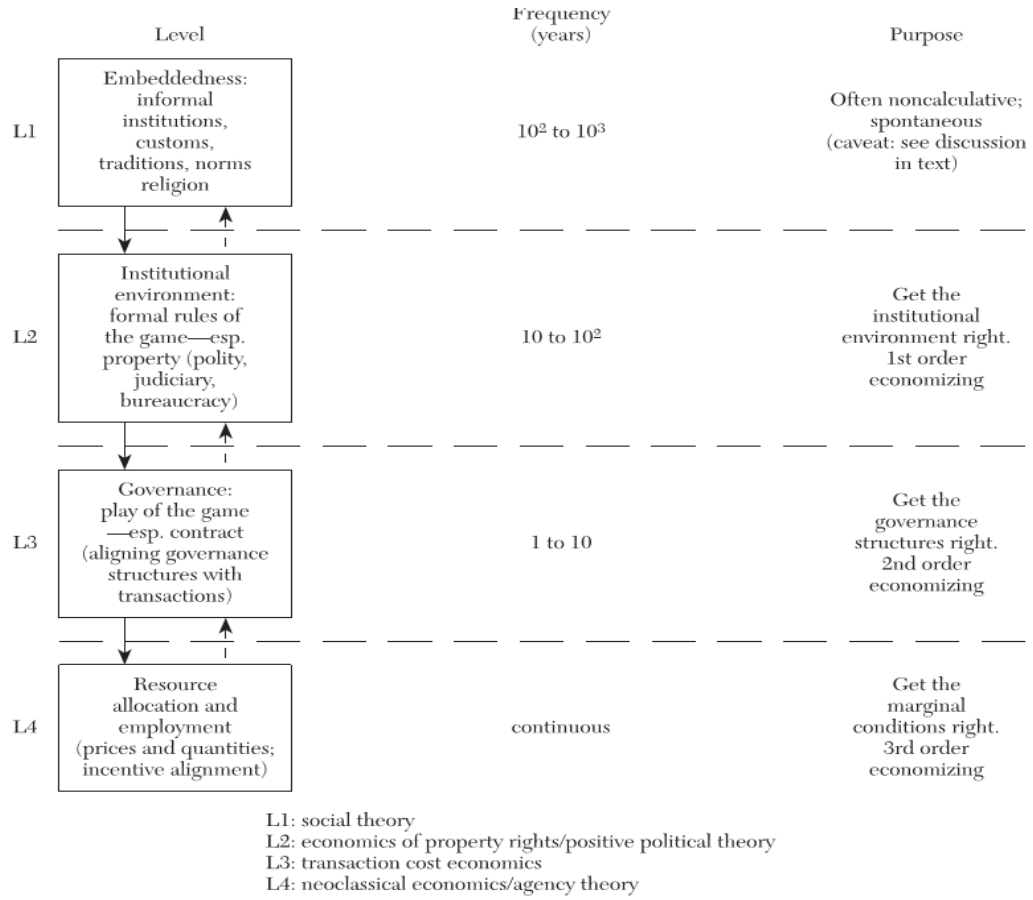
2.9.2 Levels of and types of Institutions

Institutions are nested and hence occur at different levels (see Figure 2.3). They may occur at the global, regional, national, community or family levels; or, simply, at the macro – micro levels. At the macro level, institutions take the form as defined by North, i.e. they are the 'rules of the game' or institutional environment and set by public actors (Level 2 in

[27] There are objections to the cognitive dimension proposed by Scott. He is criticised for the assumption that actors cannot conceive of alternatives to their situations. Some have called for a relaxation of this assumption to mean that though they can conceive of alternatives, they deem them as useless.

Figure 2.3). An institutional environment is the 'set of fundamental political, social and legal ground rules that establishes the basis for production, exchange and distribution' (Davis and North, 1981 in Neilson and Pritchard, 2009:107). At the micro-level, TCE defines an institution as an institutional arrangement (Level 3 in Figure 2.3), that is, 'the sets of rules and structures governing the allocation and exchange of resources through specific transactions' (Dorward et al, 2009:26). It is negotiated by private actors and is the best response by interacting actors to the constraints created by institutions in levels 1 and 2 of Figure 2.3.[28]

Figure 2.3: Levels of Institutions



Source: Williamson (2000:597)

Apart from operating at various levels, institutions can also be formal or informal. Formal institutions (e.g. a constitution or property rights) are generally written down rules (North, 1990:46) or those designed and enforced by actors obligated to do so, e.g. judiciary or

[28] Ostrom (2005 in Kingston and Callabero, 2009) gives three levels of institutions; (1) Operational rules which deal with day-day exchanges (2) Collective choice rules which are used to select operational rules (3) Constitutional rules which are used to select collective-choice rules. Higher level rules are fixed, and the choice of a rule depends on collective bargaining or 'minimum coalition' being met.

police (Milgrom et al. 1990 in Kingston and Callabero, 2009; Williamson, C. 2009). On the other hand, informal institutions (e.g. norms, beliefs and conventions) refer to unwritten rules, conventions, norms, beliefs, perceptions, trust, or reputation (Granovetter, 1985; Sugden, 1989; Powell, 1990; North, 2003) which are not designed and enforced by the state (Williamson, C. 2009:372). Informal rules are self-enforcing (Sugden, 1989; North, 1990) i.e. they usually do not require third-party enforcement, because they are adhered to in the interest of satisfying society rather than rational self-interest. They also change very slowly (Williamson, 2000).[29]

2.9.3 Institutions and Power

Recall that institutions are humanely devised, i.e. they are created by actors either intentionally or unintentionally. How then are they created and/or changed? North (1990; 2008) makes a distinction between institutions and organisations (players or actors). While institutions are the rules of the game, organisations are players who have a common objective e.g. the state, firms, trade unions and cooperatives.[30] A two-way relationship exists between organisations and institutions in that organisations are influenced by institutions and at the same time, institutions are embedded in organisations. Hence, institutions may influence the setting up and workings of organisations while some organisations may make the rules (institutions).

Also, since a function of institutions is to incentivise actors, actors will seek to alter institutions to achieve their own objectives. North (2008:22) defines institutional change as, 'a deliberate process shaped by the perceptions of the actors about the consequences of their actions.' Creating or changing institutions may involve a process of bargaining, negotiating, force or even violence hence, two conditions exist for actors to change institutions (a) they must see the need to do so i.e. 'institutional change is triggered by those who 'realize (or hope) that they can benefit from it' (Grief and Kingston, 2011:39) and (b) they must wield power i.e. be able to influence the choices and actions of other. Power (or lack thereof) enables (or limits) what actors can do. During institutional change, it is likely that both rules and organisations may evolve i.e. they may be altered or, destroyed or new

[29] Conventions can be defined as self-enforcing solutions to coordination problems that both parties to an exchange are interested in maintaining (North, 2008:385). Norms are 'prescriptions that are known and accepted yet involve intrinsic costs and benefits rather than material sanctions or inducements' (Kirsten, Karaan and Dorward, 2009:55). They motivate behaviour because participants accept to adhere to them and also expect others to do the same (Grief, 2006).

[30] North belongs to the Economic History school of thought.

ones' may arise.

Several authors including Raikes, Jensen and Ponte (2000), Altenburg (2006), Gibbon, Bair and Ponte (2008), Hess (2008) have argued that actors and factors that are external to GVC governance but exert power on the actions of the participants in the chain should be considered in GVC analysis. Kaplinsky and Morris (2001:67) suggest that governance 'highlights both power relations in the chain and the institutions which mould and wield this power.' The ability of an actor's power to impact governance is measured by the 'extent to which it affects the core activities of individual parties in the chain. For example, do the rules which are set by the value chain governors affect the core or peripheral operations of individual links in the value chain? (Kaplinsky and Morris, 2001:32). Three forms of governance can be distinguished; a) Legislative: sets the conditions of participating in the chain (b) Judicial: checks compliance with the set rules and (c) Executive: assists and supports participants to meet the set rules of participation (Kaplinsky and Morris, 2001:30-31). The different actors' power of governance has consequences for the division of labour and development (upgrading capabilities) of participants (Kaplinsky, 2000b:11).

The impact that other actors can make in GVC governance is evidenced by Reardon and Berdegué (2002), Selwyn (2008), Neilson and Pritchard (2009) among others. Reardon and Berdegué (2002:382) for instance note that although small farmers and exporters are challenged by changes in rules at the global level, their exclusion from a value chain is not automatic. They cite successful cases such as vegetable production in Purranque, Chile: despite standards and other buyer requirements, which result in the need for new investments in production technology and equipment, local farmers are able to sell to supermarkets through the help of technical assistance provided by a public actor.

Altenburg (2006: 503-507) also identifies several other factors at the local level which may contribute to governance. These include: the extent of market uncertainty, incentives to spread risks, consumer demand, market structure, capital intensity and cost of capital. For example, the unavailability of inputs may incentivise firms to integrate backwards or have formal contractual relations with some input supply firms, while an activity that requires significant investments may lead to buyers favouring independent suppliers.[31]

[31] Altenburg (2006) further states that the combinations of the three indicators of governance structures must

Unlike the GVC framework, the literature on industrial clusters has given prominence to the interaction between firms and the local context. A Cluster is defined as 'a geographically proximate group of inter-connected companies and associated institutions in a particular field, linked by commonalities and complementarities' (Porter 2000 in Nadvi and Barrientos, 2004:1). They include firms, government institutions, universities, specific input suppliers and trade associations. Clusters facilitate development since they help with access to knowledge, infrastructure, services of related companies, labour and technology, among others (Chaudhry, 2005; Nadvi and Barrientos, 2004; Ketels and Memedovic, 2008). In this literature, collective efficiency and joint action have been identified as the main avenues through which clusters are promoted or upgrade. Collective efficiency refers to 'competitive advantage derived from local external economies and joint action' (Schmitz, 1999a: 141). Local external economies (e.g. a pool of skilled labour, research and development by universities or research agencies) are incidental to the firm while joint action refers to purposeful or deliberate actions by firms to gain competitive advantage (Schmitz, 1999b).[32] Two types of cooperation are identified in joint action; bilateral and multilateral (Schmitz, 1999a), practised either formally or informally (Coles and Mitchell, 2011:144). Bilateral cooperation is that between two firms while multilateral refers to cooperation under the umbrella of an organisation e.g. business or producer associations (Schmitz, 1999a:142).

In summary, all the definitions of institutions in this Section 2.9.1 are instructive: however, two considerations stand out. First, North's institutions as the 'rules of the game' hints at a wider context than Gereffi's interpretation which points to the rules that lead firms set to minimise production and transaction costs. Second, institutions (rules) provide incentives, manage conflicts and cooperation, and reduce uncertainties in interactions. They therefore establish the framework within which actors make their decisions and choices. This would suggest that the political, economic, social, technological and cultural conditions at both the global and local levels make up the institutional dimension of the value chain and possibly interact. Thus, although Gereffi, Humphrey and Sturgeon (2005:82) acknowledge that local

not necessarily map onto the governance structures given. He notes that there is no actual need for captive suppliers to have less capability than other types of suppliers, since the captive relation is primarily due to relation-specific investments made.

[32] McCormick (1999) proves that the economic and social environment in which clusters are found are vital to its development. Weak contract enforcement, small market size and mistrust among sector participants undermined efforts at collective efficiency.

conditions such as history and local rules will influence governance they advance a simplified framework to highlight key variables that influence governance: to fully understand governance of a value chain and its impact on chain participants, there is the need to take into consideration the local context.[33]

In this study, the governance of a value chain can be understood in terms of the rules and actors which exert power or influence over the actions and behaviour of value chain participants. Also, the institutional dimension is narrowed to what I term local conditions (i.e. local political, economic, social, cultural, technological rules or circumstances and actors). Rules and actors in the local context can impose constraints on the decisions and choices of value chain participants. Hence, in accounting for the governance of local value chains, the focus must be on how the rules of participation set by lead firms interact with local conditions to affect the decisions and choices of chain participants.

2.10 Some empirical evidence on the role of local conditions in GVC governance

In agriculture, characteristics of the crop or product play a role in its governance (Grosh, 1994; Swinnen, 2006; Talbot, 2009). Several studies using either the GVC or GPN framework, have empirically analysed the role of local conditions in value chain governance and upgrading. Changed product characteristics (initiated either by an internal or external chain actor) necessitate a response by chain participants. Their response can and is, however, negotiated or mediated by local conditions.

Neilson and Pritchard (2009) document the interaction of global governance and local conditions in the tea and coffee value chains in India. Tea producers in Nilgris, Southern India, sold their produce to both the low-priced export market and the domestic market. Smallholders in this area sold low-quality tea in comparison with their colleagues in Northern India. Thus, as quality parameters increased globally, prices of South India tea declined. Smallholders responded to the increasing cost-low price scenario by engaging in practices which further reduced the quality of their produce. These actions, however, aggravated their situation and lead to the exclusion of many smallholders. To halt and reverse the exclusion of smallholders from the chain, the government of India instituted a Quality Upgradation Programme (QUP) which aimed, among other things, to improve field maintenance, increase plucking of fine leaf grades and improve buyer-seller relations.

[33] Furthermore, Sturgeon (2008:19) contends that because it is difficult to account for all the governance structures and mechanisms of coordination in a value chain, GVC proponents found it best to view governance as the linkage between lead firms and first-tier suppliers.

The scheme was able to insert women's self-help groups into the value chains by providing them with finance and management skills. The need for factories to accept fine leaf grades also lead to the implementation of the Factory Upgradation Programme, which allowed factories to receive a subsidy of 50% of their costs of investment and certification. Finally, the QUP led to the government agreeing to increase the minimum price of tea per kg.

With the enforcement of product and process standards by lead firms in Europe, Selwyn (2008) shows that producers in the São Francisco valley grape value chain in Brazil had to engage in process upgrading. With changed attributes of the product exported, both public and private actors worked individually and together to ensure producers upgraded and continued to participate in the global chain. Assistance provided included research and training. For example, the producer association, Cooperativa Agricola de Juazeiro (CAJ), helped small and medium-scale producers to overcome challenges by supporting them with (a) technical assistance in the form of agronomists making regular visits to individual farms to assess the plants and give advice where needed (b) bulk purchase of inputs and providing them to members on credit and (c) providing storage and packing facilities (Selwyn, 2008:388-389).

Mohan (2016) used endogenous institutional theory to analyse the role of local conditions in the governance and upgrading of the Nepal tea value chain. A code of conduct was initiated by internal industry associations. It interacted with both labour and financial institutions and informal norms about gender and environmental awareness to motivate chain actors' behaviour. For example, upgrading to organic certification by farmers resulted in increased labour use. Labour was, however, scarce partly due to the migration of young men. Informal rules of labour also restricted women from participating fully in the chain. The result of informal rules, labour shortage and organic certification was the inability of farmers to fully benefit from the higher prices offered by producing organic tea.

Gellert (2003) shows how both state and non-state power was used to negotiate market linkages between Indonesia's timber firms and Japanese buyers, resulting in Indonesia's domination of the Japanese market for a decade. The ability to do so partly depended on the characteristics of the product itself and partly on the political economy relationship between the state and the Indonesian Wood Panel Association (Akpindo). Thomsen (2007) draws attention to the relationship between business-state relations and ethnicity in the governance of the Vietnamese clothing export sector. In the chain linking Vietnamese

suppliers to Western buyers, former state employees who run clothing firms were more likely to participate in the chain while those excluded were of Vietnamese Chinese ethnicity. The state also created barriers to entry by mediating contact between buyers and Vietnamese suppliers. The state regulated suppliers access to finance and participation in trade fairs. Buyers who bypassed state protocols had difficulty in accessing local suppliers partly because of bureaucracy.

Oro and Pritchard (2011) view the changes in governance of the Australia-Japan beef value chain from 1987-2009 through the lens of evolutionary economic geography. Initially (1987-1995), Japanese beef buyers established captive governance relations with their Australian suppliers because the Japanese market demanded product characteristics that the Australian suppliers were not familiar with and did not have the infrastructure for. In the second phase (1995-2003), drought and competitive pressure from non-Japanese beef firms in Australia and economic recession in Japan led to a fall in demand, but the buyers still maintained captive – governance relations as they made attempts to diversify. In the third phase (2003-2009), due to an outbreak of bovine spongiform encephalopathy (BSE) disease in the US, Japan banned beef imports from the US. This necessitated a move by other suppliers to fill the gap. Also, mislabelling of products in the Japanese market by Australian suppliers led to the need for greater traceability. Australian suppliers, who were not in captive governance relations with Japanese buyers, took advantage of the opportunity provided (as they had earlier on upgraded their capabilities) to diminish the hold of captive governance relations.

Informal rules also impact governance and upgrading of value chains by incentivising actors' behaviour. Nugraha (2010) based on Scott's (2008) definition of institutions identifies the social norm of 'pakewuh' as shaping governance and upgrading of suppliers in the national dairy value chain on the Java Island of Indonesia. 'Pakewuh' promotes the avoidance of situations which potentially cause conflict in relations and applies to individuals with the same status or of different status levels. Thus, due to the extent of social and business interactions between the chain participations (cooperatives and their members), pakewuh increased the prevalence and acceptance of opportunistic behaviour. Cooperatives in adhering to 'pakewuh' did not enforce quality rules which would have potentially caused conflicts. These emboldened dairy farmers to engage in opportunistic behaviour, such as adding fresh water from a well or river to milk to increase its volume. With increasing competition for milk, cooperatives focused on milk quantity rather than

quality, and abandoned measures aimed at improving the quality of milk produced by farmers.

From the examples, above, local conditions (e.g. infrastructure and norms) affect production and transaction costs. Also, history plays a part in the emergent governance structure as participants' decisions, choices and actions reflect the past. It is therefore necessary to pay attention to specific local conditions rather than to view them as passive or of limited significance in GVC governance. NIE perspectives which embrace both formal and informal rules can be used to conceptualise the interaction between GVCs and local conditions. Mohan's (2016) work on the tea value chain in Nepal uses endogenous institutional change theory to build a stylised typology of institutional change (changes in governance) in national value chains. Changes in governance of the chain were initiated by the code of conduct developed by the Tea Development Alliance and the Himalayan Orthodox Tea Producers' Association (HOTPA). The new rule first changed the characteristics of the item exchanged. The new characteristics demanded new actors or evolved actors. The types and characteristics of the actors as well as the benefits of participation were however mediated by formal and informal rules in the financial, organisational and social domains of society.

In this thesis, I adopt a NIE approach to illustrate the change in governance in the Ghanaian pineapple export value chain. This approach can adequately address how changes in global conditions impact GVC participants who are embedded in the local context. Unlike Mohan's work, changes in characteristics of the item traded was initiated by external factors at the level of global governance. However, just like in Mohan's work, the changed characteristics of the item influenced the types and characteristics of actors who could participate in the chain, as well as their interactions with each other. This process was however mediated by local conditions. Thus, the specific mechanism through which the prevailing governance structure of the chain emerged, as well as the chain's development, form the study's focus.

2.11 Concluding Remarks

In this chapter, governance, upgrading and institutions as conceptualised in the GVC framework have been emphasised. The governance of the fruit and vegetable value chain is buyer driver meaning that buyers at the global level dictate the rules for the products they purchase. These rules impact the characteristics of the item exchanged and its

consequences goes beyond 'moving up the chain' (Altenburg 2006). The interpretation of governance in the GVC framework however is based on global characteristics which does not actively take into consideration the embeddedness of suppliers in their local conditions. The neglect of processes and specific conditions in the local institutional dimension and their impact on chain actors implies that the actual form and content of GVC governance in value chains is glossed over. Given that developing countries are continuously encouraged to participate in GVCs, this thesis sets out to investigate how the interaction of global governance and local conditions affects the governance and development of chains.[34] To achieve this objective, chapter three, sets out the conceptual framework used in this study.

[34] Due to limited benefits of participation in GVCs by developing countries, some argue that developing countries should specialise in specific tasks (Draper and Lawrence, 2013). UNECA (2013:75) cautions against this and rather advocates for linkages (e.g. forward, backward and horizontal linkages) in the local economies to exploit the benefits participation in GVCs provide.

Chapter 3 Conceptual Framework

3.1 Introduction

The new mechanisms through which international trade and production are governed have changed the structures and relationships in agri-food chains. GVC analysis provides one way of analysing how these market structures and relations have been reconfigured. Such analysis focuses on how lead firms wield power over suppliers through mechanisms such as standards. Standards affect product characteristics and require that suppliers make products that conform to specific characteristics and/or are produced under specific conditions. This drive impacts the characteristics of suppliers at the national level and their relationships with each other. In the GVC framework, the nature of relations between buyers and suppliers (governance) thus determines the upgrading (development) of a chain. Upgrading, as previously explained in Chapter 2, refers to how to move up the chain or make products more efficiently.

As already indicated governance and upgrading are inadequate to explain the development of national value chains. Altenburg (2006:308) argues that the development of value chains, especially at the national level, must include, among others, the allocation of risks, the quality of supply, entry barriers and opportunities for inclusion, and income generation. Such an analysis cannot take place without a consideration of local conditions which structure production and exchange.

The importance of local conditions in GVC governance and its implications for development has been explored (Section 2.10). However, apart from Mohan (2016) who uses an NIE approach none of the other studies has done so. Also, Mohan (2016) looked specifically at an internal trigger (cause) of change in the governance of the Nepalese tea chain. In all, the case of an external or exogenous trigger of change has not been considered. The objective of this chapter, therefore, is to develop a conceptual framework which draws on an NIE analysis of exchange to elaborate how global governance impacts governance and development of national value chains. The framework introduced here adds to our understanding of how local conditions influence the construction, altering, modification or change of value chain governance in specific local conditions.

The chapter is organised as follows: in the first section, I consider why GVC analysis needs the support of another approach to account for the role of local conditions in value chain analysis. The following section discusses the aspect of the NIE framework chosen for the study, i.e. the Exchange Configuration approach. This approach postulates that 'institutions are an important aspect of the exchange environment' (Cornelisse and Thorbecke, 2010:61) and hence highlights the important characteristics of the local context which influence governance of transactions. These characteristics either enable or hinder cooperation and coordination along the value chain. With a focus on the role of institutions in structuring exchange, the final section uses insights from the EC approach to develop a conceptual framework for the Ghanaian pineapple export value chain.

3.2 Global - Local Linkages

In Sub-Saharan African (SSA) countries, the agricultural sector is crucial to economic development, especially in terms of its contribution to foreign exchange, employment and its multiplier effects. Nonetheless, agricultural development in Africa faces many challenges, including the lack of infrastructure and inadequate government support. Currently, a major challenge facing agricultural producers in Africa is the ability to effectively compete in the global market, given the leading role played by private actors in setting, implementing, enforcing and monitoring rules.

The strength of the GVC framework lies in its ability to characterise governance dynamics at the global level, i.e. how lead firms dictate the conditions of participation and benefits for suppliers. However, this focus does not make it possible for it to give a satisfactory account of a chain's governance at the national level and so the framework's potential for analysing development is limited. One way of overcoming this deficit is to combine GVC analysis with the cluster literature (section 2.9.3; Knorringa, 1999; Nadvi and Halder, 2005). On the other hand, local level analysis is a strength of the NIE frameworks.

Since empirical evidence has shown the active role of the local context in GVC analysis and NIE is an underpinning literature of the GVC framework, it is pragmatic to attempt to characterise, from the point of view of NIE, the interaction of global and local governance in a systematic and coherent manner. Consequently, with the goal of making explicit the conditions and processes through which governance of national value chains emerge and

are reconfigured, I combine GVC analysis with insights from the Exchange Configuration Approach.

3.3 The Analysis of Exchange: The Exchange Configuration Approach

Miles and Huberman (1994:18) define a conceptual framework as a visual or written product which 'explains, either graphically or in narrative form, the main things to be studied—the key factors, concepts, or variables—and the presumed relationships among them' The Exchange Configuration Approach (hereafter EC approach), developed by Peter Cornelisse and Erik Thorbecke, serves as a general conceptual framework from which a conceptual framework for the study's objectives is constructed.[35]

The starting point for the approach is that transactions, for example, the exchange of a product between suppliers and buyers, occur within exchange configurations (Thorbecke, 1993:591). Cornelisse and Thorbecke (2010:55) define a transaction as 'various forms of agreements among willing owners in which ownership rights are transferred.' In analysing transactions, the agreement itself must be considered in tandem with activities involved in carrying out the agreement, situations which threaten or cause changes in the agreement, and the enforcement of the agreement. Thus, three elements are crucial to mapping out the configuration within which a transaction is determined: the characteristics of the item exchanged, the characteristics of actors and the characteristics of the exchange environment (i.e. characteristics of the local context). An exchange configuration is 'an entire constellation – consisting of a particular combination of characteristics of elements of exchange, the decision process actors go through, and the resulting transactions' (Cornelisse and Thorbecke, 2010:5).

The approach highlights the interaction of the three elements of exchange in determining the governance of a transaction. Any change in the elements will be responded to by actors who will choose to govern transactions in a manner which minimises production and transaction costs (Thorbecke, 1993:591). Thus, it is the reactions of actors to the incentives (constraints and opportunities) provided by the configuration that determine the form and content of transactions (how a transaction is governed). Actors on their own can also

[35] The approach is like the Structure-Conduct-Performance (SCP) Paradigm in Industrial Organisation, in that the organisation of the firm (structure) determines the conduct (tactical and strategic choices) of participants of the industry and performance. It, however, differs from the SCP; because while the SCP leads to definitive conclusions about the performance of industries, the consideration of a wider sphere of actors (number, types, and varying characteristics) and their active nature in the EC approach means performance may be varied.

impact governance; however, this depends on their characteristics.

There are two reasons why the EC approach is appropriate for this study. First, it enables the study to depict how changes in related configurations affect other exchange configurations. In this way, how changes in rules affecting relations between global buyers and first-tier suppliers is likely to alter or modify the characteristics of the item exchanged at the local level can be depicted. Second, it seeks an understanding of the consequences of change in any one characteristic, as occurring in conjunction with the characteristics of the remaining elements of exchange. So, a change in rules at the global level must be understood in terms of its interaction with the characteristics of the elements of exchange at the local level. At the same time, it permits an evaluation of how the response of actors to the changed characteristics impact outcomes in the configuration.

3.3.1 Key Terms and Concepts in the EC approach

(a) Transactions and Transaction activities

Three types of transactions are specified by J.R. Commons: bargaining, managerial and rationing. For an exchange to occur, actors must have the right to allow such an exchange. Since ownership is central to transactions, Commons' writings stressed the legal basis of transactions. Bargaining (or market) transactions assume the legal equality of the parties to the exchange. However, economic equality is not assumed; therefore, four types of conflict are found in this transaction; competition, discrimination, economic power and due process (Witzel, 2005:89). Managerial transactions involve a legal superior and inferior (e.g. a manager and an employee relationship). Intrinsically, the parties are assumed unequal. Also, in rationing transactions, the relationship is between a superior and an inferior; but the superior is a collective superior (e.g. board of directors) while the inferiors are individuals (Medema and Samuels 2003; 687).

Overall, a transaction involves the transfer of ownership rights, the structure and terms of exchange, transfer of resources and power relations; hence activities involved with these components must be included in the analysis (Cornelisse and Thorbecke, 2010:55). The EC approach deals mainly with market transactions (bargaining transactions) which occur 'between individual actors and between individual actors and firms' (Cornelisse and Thorbecke, 2010:56).

(b) Uncertainty and Risk

Risk and uncertainty are elements of transacting. Cornelisse and Thorbecke (2010) adopt Knightian uncertainty, i.e. when the probability distribution of an action is unknown and thus the outcome cannot be calculated. Risk, on the other hand, is when the probability distribution of an action is known and so the outcome can be calculated. Both uncertainty and risks lead to an increased likelihood of transaction failure and hence the need for increased investment in specific assets to bring about the transaction. Thus, uncertainty and risk affect actors' decision-making. Since it is possible to calculate the riskiness of an action, it is manageable through a mechanism such as a contract.

(c) Cognitive abilities of actors

Uncertainty and risk are also impacted by the cognitive ability of actors. Actors do not possess full and complete information when making economic choices; hence information asymmetries exist in their interactions. Cognitively, actors are bounded rational; that is, actors are limited in the extent to which they can possess all the information necessary to 'objectively' view the structure of the game. An actor's rationality depends in part on the amount of information available, his access to this information and skills, among others. Bounded rationality recognises that an economic agent may not have all the information needed to make a decision, or the information may not necessarily be reliable or accurate. However, a decision must be and is made based on the available information.[36]

3.3.2 Characteristics of Institutions in the EC approach

The EC approach does not provide a definition of institutions; however, it discusses the definition of institutions by North (in Chapter 2), in favourable light (Cornelisse and Thorbecke, 2010:65). Institutions are found in the exchange environment and the following are their characteristics.

[36] Two types of uncertainty are identified in NIE; behavioural and environmental. Behavioural uncertainty results from the bounded rationality characteristic of actors themselves, in addition to not knowing the amount and extent of knowledge possessed by other actors. Environmental uncertainty may result from activities in the actor's external environment over which he exerts no control e.g. policy decisions at the global level.

(a) Institutions are dynamic

Institutions are not static and/or passive. They evolve over time because of actors actively changing their beliefs and behaviour. Hence, the same institutions faced by different sets of interacting agents may result in different behaviours and development outcomes. According to Di Matteo (1980:14, in Leca et al, 2009:68), actors with sufficient resources can affect the form and nature of institutions because 'they see in them an opportunity to realize interests that they value highly.' Processes involving bargaining and struggle reflect the distribution of resources and power of those who brought them into existence (Campbell, 2004:1); more importantly, they are embedded in the social, political and cultural setting of society (Granovetter, 1985).

(b) Institutions are path dependent

The mechanism through which changes in institutions occur is usually characterised by path-dependence (Campbell, 2004:65). Path dependence refers to the potential for initial conditions and historical trajectory to cause institutions to behave in a predetermined way and hence the possibility of changes in the content of institutions but not the form (Sindzingre, 2003:9). Also, it may result in the persistence of inefficient institutions.

(c) Institutions are not necessarily efficient

The EC approach also subscribes to the idea that institutions are not necessarily efficient. Since institutions are human constructs borne out of a process of conflict, bargaining, and negotiation, it is possible that behaviour and expected behaviour exhibited by economic agents are sub-optimal, because relatively more endowed actors will agitate for arrangements in their favour. This is in addition to the fact that the characteristic of bounded rationality may lead to the emergence and stability of inefficient institutions.

3.3.3 Main Elements of an Exchange Configuration

(a) Characteristics of the item to be exchanged

Every item to be exchanged has its own characteristics. In economic exchanges, the characteristics may be technological and/or economic. The technological characteristic of the item may determine the extent to which an item (e.g. a crop) can be further developed or used (Goldsmith, 1985 in Baumann, 2000:20). For an agricultural crop, for example, it may be the length of time it takes to mature, whether it is perishable or non-perishable and

storability. These characteristics have a role to play in determining production and labour processes that aid in development (Binswanger and Rosenweig, 1986).

The economic characteristic can be whether it is a final, intermediate, consumer or industrial good, the frequency of exchange, the extent of uncertainty involved and its asset specificity, among others (Dorward and Omamo, 2009; Cornelisse and Thorbecke, 2010). It is important to be able to clearly identify the characteristics of the item to be exchanged as it enables a greater understanding of the kind of institutions or structures used to govern its production and exchange.

(b) Characteristics of actors

This refers to the 'preferences and objectives and other characteristics on the one hand, and the instruments available to them in pursuing their objectives, on the other hand' (Thorbecke and Cornelisse, 2014:145). Following is a discussion of the types of actors and their characteristics.

i. Types of actors

In all domains, we have actors or players who frequently interact with each other. Actors can broadly be categorised as individuals or organisations. Organisations may include firms, the state (government), development agencies, cooperatives and other collective action organisations. Actors (those who are directly involved in the exchange) are the only elements in the domain who have the power to make decisions; hence the decision-making process of actors becomes an integral part of why different exchange configurations exist (Cornelisse and Thorbecke, 2010:47).

ii. Cognitive abilities

The cognitive characteristic used by NIE, and adopted by the EC, are those of bounded rationality, explained in Section 3.3.1.

iii. Characteristics of actors

The characteristics of actors influence their decision-making. Cornelisse and Thorbecke (2010, 119-123) observe that the main characteristics of actors which influence transactions are: (a) the number and density of actors (b) resource endowments including assets, income, education, social status, and skills (c) actors' attitudes and preferences, including

attitudes towards risk – which are to an extent influenced by social norms and values (d) the level of social capital and (e) access to information and knowledge. For organisations, such as firms, their characteristics may differ from those of individuals due to their economic and political power, bargaining abilities and size, among others.

Actor characteristics can exert power on an exchange relationship. The choice of exchange configuration, type of exchange transaction and outcomes of interactions are affected by actor characteristics. Some characteristics of an actor are partly affected by other characteristics. For example, an actor's attitude towards risk may be affected by his access to information, income level, education and skills. Also, the attributes of an actor may define the types of activities that can be engaged in. It may permit the actor to take the institutional environment within which he operates as given or not (Greif, 2006; Kingston and Caballero, 2009; Cornelisse and Thorbecke, 2010). For example, if the actor is a dictator, he can change rules by fiat. On the other hand, a collective action organisation will need to go through a process of bargaining and negotiating with other actors in the exchange relationship.

(c) Characteristics of the Exchange environment

The EC approach identifies six areas of interest which make up the local context. Rules and actors in this context impose constraints on the decisions and choices of interacting parties (Cornelisse and Thorbecke, 2010:64). The six areas (domains) of the exchange environment, grouped into three sets are: (i) Cultural, Political and Legal (ii) Physical and Technological (iii) Socio-economic (Cornelisse and Thorbecke, 2010:105).

i. Cultural, Political and Legal Environment

Cultural: This consists of 'collectively held norms and values' (Cornelisse and Thorbecke, 2010:106), which influences behaviour. In this domain, language, norms, values and symbols are used to order exchange. Cultural attributes are mostly observed where intensive and frequent interaction takes place among the members.

Political and Legal: This is the domain where rules made by all levels of the state (national, federal, constituency, and district) are found. Political decisions are influenced by norms and values of society, the distribution of power, self-interest, and interest groups: thus, the motivations of decision makers in this domain are not purely benevolent. The approach considers policy to be the main instrument of action in the domain. Policies can be 'fluid

and volatile' (Cornelisse and Thorbecke, 2010:111) as actors may try to promote their own interests or advance the interests of particular groups. Continuous pressure by various organisations (both internal and external) means that rules (policies) can be short-lived or fail to achieve intended policy objectives. In certain cases, policies required may not be initiated and implemented at all, due to such pressures.

Usually, rules made in this domain have implications for other domains, such as the economic domain. For example, property rights institutions which affect economic transactions are usually created and enforced by the state, judiciary and traditional authorities. Nonetheless, there are feedback effects between economic and political institutions. In the legal domain reside institutions related to the making of laws along with their monitoring and enforcement. Proper enforcement and monitoring of institutions reduce transaction and production costs as they minimise uncertainty; thus, institutions in the judiciary and law enforcement are also important.

ii. Socio-economic environment

The social domain refers to the differentiation or division of society into groups based on characteristics such as age, gender, religion, kinship, educational level and income level. These social determinants influence the ordering of exchange in other domains, such as the economic and political domains. The economic domain is where the production and distribution of goods and services takes place (Aoki, 2007:13). Therefore, the socio-economic environment refers to the domain where these social characteristics determine economic production and distribution. An institution of much importance in the social setting is power. The balances of power and/or the social statuses of persons are not taken for granted (Colson, 1974 cited in North, 1991): this is due to (a) 'the intrinsic motivation by individual actors whose attitude towards others reflects the cultural environment (b) the external social control (c) the tendency among actors to reciprocate in a way similar to how they were approached' (Cornelisse and Thorbecke, 2010:107). However, the greatest impact of social norms and values is found in situations where the actors 'interact frequently and intensively' (Cornelisse and Thorbecke, 2010: 106).

The income level of a geographic area is an important characteristic of the socio-economic environment, as it determines the volume and variety in production. Generally, in developing countries income levels are lower than in developed countries; therefore, the volume and variety of goods and services are lower. Another characteristic of the socio-

economic environment is the 'sectoral composition and spatial dispersion of production activities' (Cornelisse and Thorbecke, 2010:119) in the production structure. The spatial distribution of activities has consequences for employment and hence the labour exchange configuration. In addition, variables addressing the structure of the industry, e.g. the number of competitors, distribution channels, alternative products, availability of finance and access to knowledge, influence the volume and variety of production.

iii. Physical and Technological Environment

Physical: This domain includes soil, location, climate, pests, and infrastructure (Cornelisse and Thorbecke, 2010:113-114). In view of institutions being man-made and aimed at minimising transaction and production costs (North, 1990), infrastructural development is considered the most important characteristic of the physical domain (Cornelisse and Thorbecke, 2010:114). Infrastructure, such as a good road network, warehouse, communication and irrigation facilities, reduces transaction costs in exchange.

Technological: This refers to the application of knowledge in the creation of equipment, machinery, processes, information and communication devices which are used in the production of goods and services. Technological innovations have rapidly increased with globalisation. Developing countries usually adopt and/or adapt technology from developed countries rather than innovate, because they lack the capabilities (skills, financial resources, and intellectual resource protection) needed to motivate investments in innovation. The adoption of appropriate and efficient technology is not straightforward, but it enables the production of advanced goods, resulting in higher skilled employment, income, and wealth.

Changes in the technological domain result in changes in exchange elements, such as changes in the item exchanged and the characteristics of actors. Innovations and improved technology result in the altering of characterises of the product, e.g. intrinsic qualities and appearance, and may also alter the skills and knowledge required to produce a good.

3.3.4 Choosing Characteristics of Exchange Elements

Theoretically, the set of characteristics which influence an exchange configuration is large. However, empirically, this set is small (Thorbecke, 1993; Cornelisse and Thorbecke, 2010). The EC approach advocates three ways of making a discriminatory choice among the possible characteristics. First, exchange elements are usually discrete and not continuous; therefore, they can be found in 'two or at most only a few states' (Cornelisse and

Thorbecke, 2010:131). Bimodal states generally used in development economics include: traditional and modern, formal and informal, discretionary and nondiscretionary, rural and urban (Cornelisse and Thorbecke, 2010:131-150). Second, there are identify characteristics which may be highly inter-correlated with others (Thorbecke and Cornelisse, 2014: 145). Third, cost considerations serve as a limit to the number of distinct real life transactions observed.

For example, Cornelisse and Thorbecke (2010:131-145) note that alternative technology choices faced by a smallholder farmer are generally few and discrete, presenting themselves in a bimodal state, modern and traditional. Modern technology is characterised by high factor productivity, is capital intensive and generally imported. On the contrary, traditional technology is labour intensive, locally available and of relatively lower total factor productive. The choice of which technology is used is likely correlated with other characteristics of the smallholder, e.g. asset level, access to finance and risk attitude. This serves to limit the characteristics of exchange elements likely to influence transactions.

3.3.5 Institutional change in Exchange configurations

In the EC approach, institutional change occurs when there are changes in the exchange elements. Changes in exchange elements may be instigated by factors which are either endogenous or exogenous to an actor. Endogenous and/or exogenous factors may also be classified as intended and/or unintended (Cornelisse and Thorbecke, 2010: 176; Table 3.1). Endogenous factors which cause an evolution of the exchange configuration are specific to actor's tactics and strategies or the loops and feedbacks in the systems of exchange. Exogenous forces, on the other hand, refer to acts and decisions by actors who are not in the exchange configuration under review, and can be in the form of shocks or public policies (Cornelisse and Thorbecke, 2010:176-177; Table 3.1). The forces of changes are discussed below.

Table 3.1: Main Forces of Institutional change in EC approach

	Endogenous	**Exogenous**
Intended	Actors' tactics and strategies	Public policies
Unintended	Loops or feedbacks in systems of exchange	Shocks

Source: Cornelisse and Thorbecke (2010:176)

(a) Actors' Tactics and Strategies

Actors will seek to change the form or content of transactions when they are not satisfied with it. In addition to reacting to changes in the exchange elements, actors make tactical and strategic decisions. Tactical decisions refer to the short-term changes actors make in response to a change in exchange elements, while strategic decisions refer to '…conscious and autonomous manipulations of aspects of the exchange elements' (Cornelisse and Thorbecke, 2010:183). Strategic moves are deliberate and calculated to affect not only the initiator of the move, but also other actors involved in the transaction. The ability of actors to take tactical and strategic decisions involves learning and the range of instruments available to them.

Learning is described as 'the process of acquiring new knowledge and behaviour' (Cornelisse and Thorbecke, 2010:79). It can be passive and mechanistic or active and purposeful. Active learning involves awareness of changes and the willingness to learn and adapt to changes. The EC approach gives prominence to active learning as actors learn from their experiences, observations of the behaviour of other actors, and observations of changes in exchange elements and then make decisions and choices regarding their next course of action (Cornelisse and Thorbecke, 2010:78). As mentioned in Chapter 2, learning in GVCs has significant effects on the upgrading of actors. At the same time, the ability to learn depends on the type of knowledge, local conditions and the characteristics of the actor, for example, the actor's absorptive capacity (Cohen and Levinthal, 1990).[37]

(b) Loops or feedbacks in systems of exchange

Loops and/or feedbacks (or spill-over effects) are endogenous and unintended results of change. Two types are identified in the economic literature; positive externalities and negative externalities. However, four other loops or feedback effects stemming from the continuous flow of information are identified by the EC approach (Cornelisse and Thorbecke, 2010:193-194). These are: (a) changes in perception concerning variables, e.g. price and volume; (b) changes in expectations among actors in other or related exchange configurations; (c) changes in the allocation of scarce resources; and (d) changes in the distribution of power.

[37] Absorptive capacity is a function of the characteristics of the actor e.g. educational level

(c) Public Policies

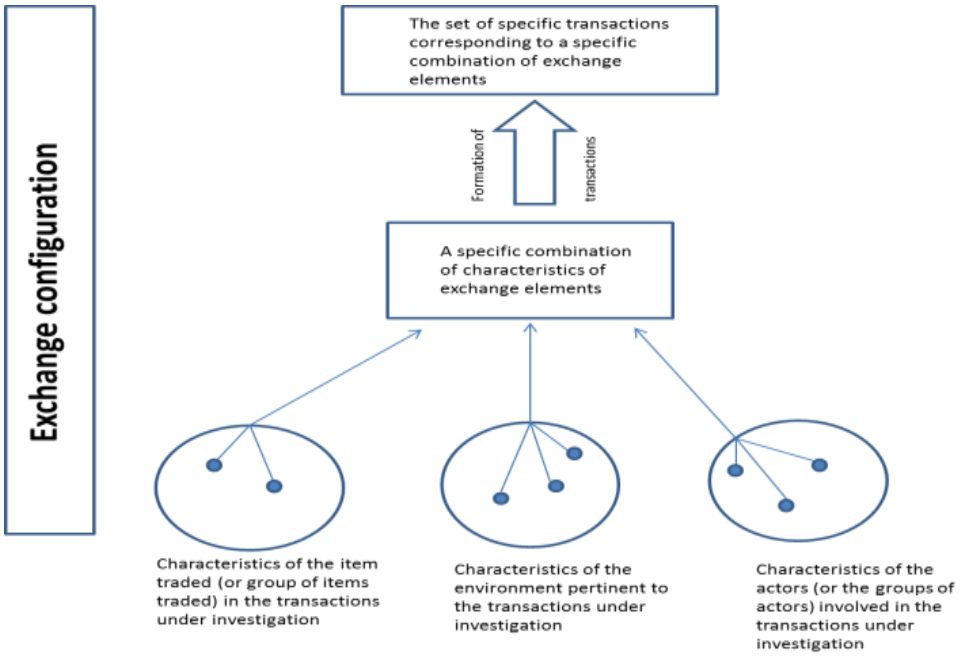
These are policy interventions instituted by the state or government to influence the elements of exchange. They are exogenous intended forces of change but can be termed as endogenous strategic when the state directly participates in the transaction. For example, the state in the Ghanaian cocoa sector is a major player in the industry, as it is responsible for buying and selling all cocoa produced in the country. It provides credit and input to producers and determines the price paid to smallholder producers.

(d) Shocks

Shocks are unpredictable changes in exogenous factors and have differential impacts on actors. They may emanate from the global, national, regional, family, firm, or even individual level. Shocks include wars, famine, epidemics, and death in a family. They have differential impacts on actors exposed to them, as the characteristics of the actor mediate the effects on the actor

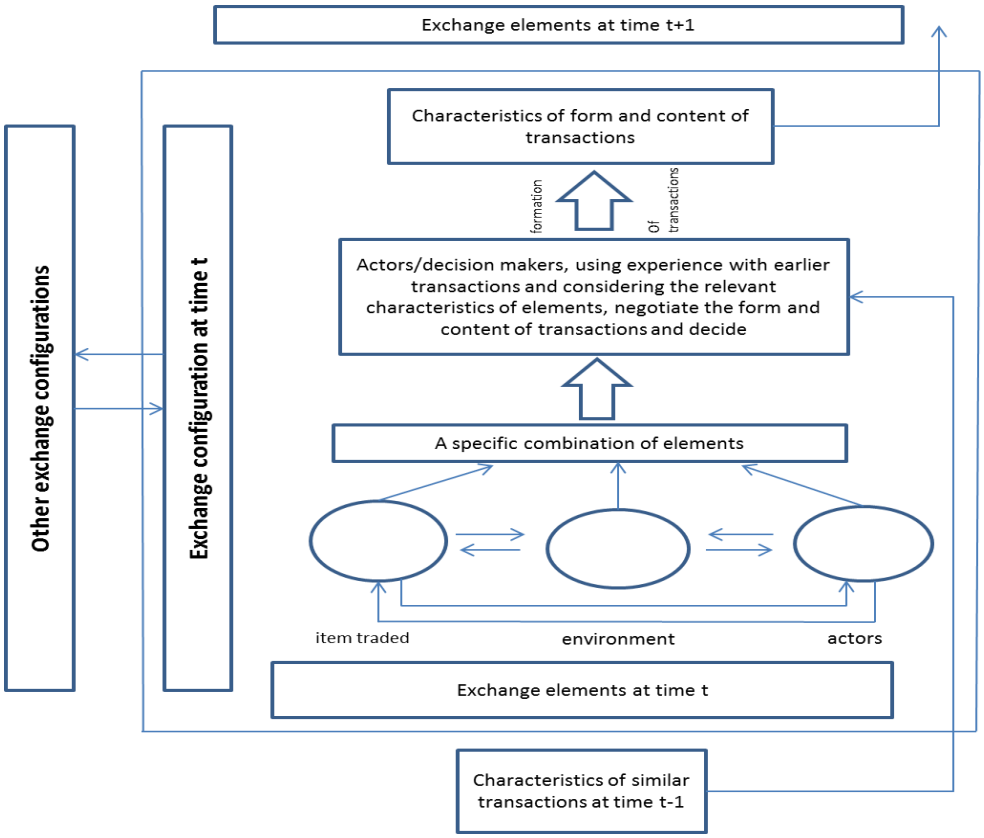
The initial characteristics of exchange elements result in a transaction which is indicative of the specific combinations of the exchange elements (Figure 3.1). As the elements change, they affect the functioning of the configuration and may result in new characteristics of the transaction, which may in turn influence the exchange elements in the configuration under consideration and/or other configurations (Figure 3.2 and Figure 3.3). At the same time, changes in elements in related configurations may influence exchange elements in the configuration under consideration (Figure 3.3). Nonetheless, the relationship between changes in the exchange elements and the actual changes that take place in the configuration are not deterministic, because they are dependent on the responses (decisions, choices, and reactions) of actors who directly transact (Cornelisse and Thorbecke, 2010:183).

Figure 3.1: Diagram of a stylized exchange configuration



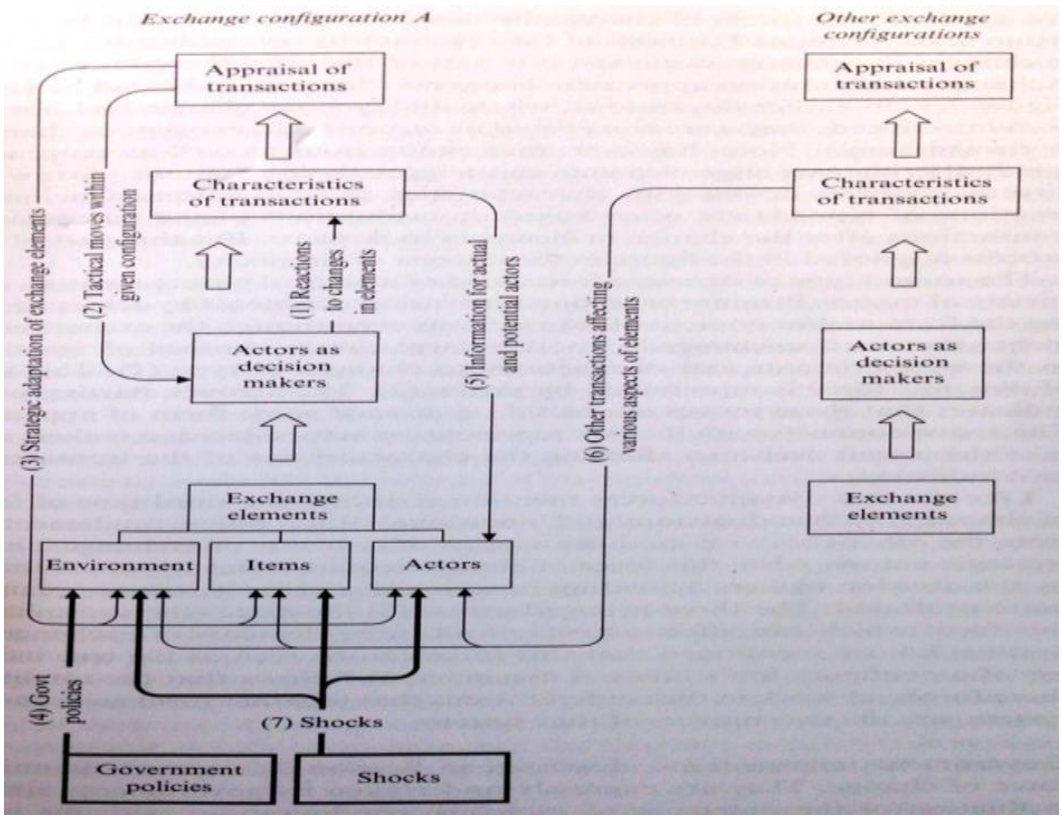
Source: Cornelisse and Thorbecke (2010:27)

Figure 3.2: An extended version of an exchange configuration



Source: Cornelisse and Thorbecke (2010:50)

Figure 3.3: Evolution of an exchange configuration



Source: Cornelisse and Thorbecke (2010:197)

3.4 A Conceptual Framework to link global and local governance

3.4.1 Linking global and local governance

Insights from the EC approach indicate that actions undertaken in a related exchange configuration may impact transactions in a configuration under examination. Since production and marketing in value chains are inherently linked, the governance of transactions in one sphere affects the other. That is why even though most agricultural producers in developing countries are not directly linked with retailers in developed countries, the governance of relationships between retailers and first-tier suppliers (i.e. transactions in related configurations, No. (6) in Figure 3.3) can impact transactions between suppliers in a country.

In the global pineapple value chain, retailers' move to MD2 and the use of standards significantly transformed the characteristics of pineapple traded on the international market (see Chapter 4). Changes in product characteristics add to the risks of transacting, because they increase the complexity of exchange and uncertainty. The new pineapple variety and

product characteristics such as traceability, quality specifications, and flexible delivery deadlines impacted actor characteristics (such as the number of actors, assets, income, skills, attitudes towards risk, access to information and knowledge, among others). The initial production structure in many developing countries was not conducive to production and exchange under the new rules, and the trickle-down effect of such profound changes has been a significant impact on the organisation of producers and exchange, especially among smallholder farmers and exporters.

Smallholders and exporters in developing countries usually face constraints related to missing input and output markets. Such constraints include inadequate access to credit and inadequate infrastructure, which have become more complex and profound with transformations in the governance of agri-food chains. They increase production and transaction costs, due to high levels of asymmetric information, uncertainty and asset specificity.

Specifically regarding standards requirements, small producers and exporters face problems related to '(1) how to produce safe food; (2) how to be recognized as producing safe food; (3) how to identify cost-effective technologies for reducing risk; and (4) how to be competitive with larger producers' (Narrod et al., 2005 in Narrod et. al., 2009:8). These problems put them at the risk of exclusion from the chain, as they are unable to engender and/or enhance the characteristics required from producers who can participate in these chains. Dolan and Humphrey (2000:166), for example, indicate that in 1992 75% of fruit and vegetable produce was sourced from smallholders in the Kenyan chain, but this had declined to 18% in 1998 as standards became more prevalent. Exclusion is, however, not automatic and can be mediated by local circumstances and actors.

The impact of transaction costs on inter-firm relations can be immense. One way of ensuring its minimisation is by using contracts. Contracts minimise information asymmetry, asset specificity and uncertainty in a relationship, thereby allowing the integration of smallholders and small exporters into national and global value chains (Masakure and Henson, 2005; Barrett et al., 2012). Mighell and Jones (1963, cited in Minot, 1986, p.5) classify agricultural contracts as (a) Market-Specification contracts (b) Resource – providing contracts and (c) Production-management contracts. Market-specification contracts usually name the price and the quantity of a future transaction; resource-providing contracts are a combination of the market-specification contract with the contractor providing inputs to

the contractee; and production-management contracts combine market-specification with technical assistance. According to Key and MacDonald (2006), market-specification contracts focus on the produce and not the services rendered. They offer farmers a premium if some quality standards are met, and the farmer retains control over the production process. Comparatively, under production management contracts, the farmer provides services for the contractor who owns the produce. Therefore, the contractor conveys detailed information about the quality of the produce and agricultural practices. The farmer's payment is said to be based on exact services offered and not on the market value of the produce (Key and MacDonald, 2006). Thus, contracts provide certain advantages to smallholders and exporters, including reduction in search and negotiation costs, access to extension services and new information, access to credit and hedging against price fluctuations using fixed prices, among others.

Nonetheless, relations between firms or farmers and exporters, as well as within groups of chain participants, are structured by local conditions. Therefore, the use of a contract, that is, its design, implementation and effectiveness, is essentially defined by local conditions. Contracts are usually incomplete, due to imperfect information and uncertainty; so, parties to a contract are unable to specify ex-ante all the possible situations which may arise during the contract's tenure. This failure increases the possibility of actors behaving opportunistically. After the agreement is completed, either party may attempt to exact quasi-rents from the relationship. For example, the buyer and producer may negotiate over the price to be paid for the product; however, when the market price of a contracted product turns out to be greater than the contracted price, there is an incentive to sell the product on the market than to the contractor. Also, a buyer may unilaterally renegotiate the price to be paid or may delay payment to the producer.

The literature on contracting notes that a third party (e.g. the judiciary) will typically adjudicate contractual breaches. This third party monitors contractual breaches and makes the information available to all participants. However, in the agriculture sector of many developing countries, resorting to the judiciary to mediate breaches in agricultural contracts can be complex and time-consuming. This is partly due to the small-size of producers and hence the lack of any viable assets which can be seized. Thus, where it is not feasible or cost effective for third party adjudication, informal rules, such as trust and reputation, may be used to enforce contracts.

Schmitz (1999b:141) defines trust as 'the willingness to expose oneself to the possibility of opportunistic behaviour by others.' Trust can be derived from both formal and informal institutions. Humphrey and Schmitz (1998: 35-36) classify sources of trust into three groups; macro, meso and micro. Macro-level trust is defined in terms of formal institutions or rules, e.g. certification, and gives information about potential partners (Humphry and Schmitz, 1998: 35, 39). Meso-level trust is based on: (a) norms in society which reflect societal virtues, such as reciprocity and honesty, and actor characteristics, including ethnicity, religion, social status, and wealth (Humphrey and Schmitz, 1998, Fukuyama, 1999); and (b) sector level organisations which monitor adherence to rules (Humphrey and Schmitz, 1998: 35). Micro-level trust is process-based and 'earned' through experience gained from interacting on a personal basis with particular partners (Humphrey and Schmitz, 1998; Schmitz, 1999b). Micro-level trust is built up through repeated transactions and over a period of time. Repeat interactions with the same supplier leads to increased information about the supplier, providing a business reputation (Fafchamps, 1996:432). Also, path dependence (i.e. the existence of positive past interactions between supplier and buyers can affect future interactions and vice versa) (Fafchamps, 1996). In circumstances where informal rules are used to enforce a contract, the contract is said to be self-enforcing.

Trust and reputation are linked as repeat interactions with the same supplier leads to increased information about the supplier (Fafchamps, 1996:432). The existence of positive past interactions between supplier and buyers can affect future interactions and vice versa. In circumstances where informal rules enforce contracts, the contract is said to be self-enforcing.

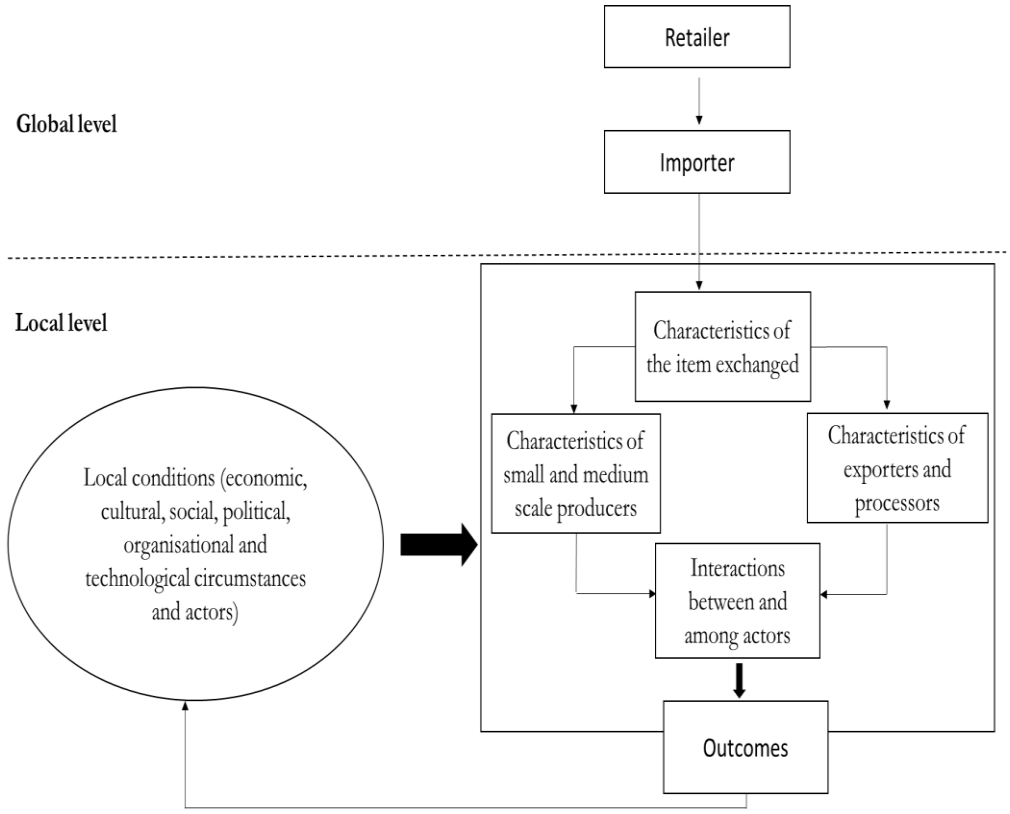
Regardless of the positive benefits of informal sources of trust promoting exchange, Fafchamps (1996:444) notes that repeat interactions between two parties to an exchange which do not affect the relationship between the partners and others participating in the chain may make it difficult for reputation to be used as a contract enforcement mechanism. The ability to develop a sector or attract new entrants into the sector is limited because partners must incur high search costs to find new reliable partners. Thus, exchange is likely to be more effective when both macro and micro levels of trust are in existence.

The preceding discussion implies that other actors (apart from those directly engaged in an exchange) may also impact asset specificity, uncertainty and information asymmetry in the

chain. They can do so through their actions (or inactions), whether intentionally or unintentionally. For instance, an objective of making smallholders more capable of participating in global value chains may require them to engage in horizontal cooperation. The extent to which this can be achieved is partly contingent on the objectives of other actors, such as the state or government and development agencies. These actors may have to make investments to strengthen the capabilities of chain actors. But such investments may not be made at all or only partially implemented. The contributing actors may not see the need to do so; they may not have adequate human and financial capital; or they may prefer to maximise their own self-interest. For example, while suppliers may need financial interventions or an enabling business environment, the government may seek to maximise its political ambitions and thus institute policies and strategies which reward political patronage (the practice of benefitting from supporting a government in power rather than on merit).

By putting together, the GVC framework and insights from the EC approach, the conceptual framework of this study suggests that governance of a local (national) value chain is co-determined by the interaction of global and local conditions. The restructuring of value chains at the local level is shaped by the interaction of changes in the characteristics of the item exchanged, the characteristics of the actors and local conditions. Significantly, it postulates that how production and exchange relationships are configured and/or reconfigured to determine benefits to participants and the development of the chain depends largely on local conditions. This idea is visually captured by the study's conceptual framework presented in Figure 3.4.

Figure 3.4: Visual representation of the study's Conceptual framework



Source: Author

3.4.2 Application to the Ghanaian pineapple value chain

The transaction under consideration in this study is the production and exchange of pineapples for export. The Ghanaian pineapple export value chain consists of the item produced (pineapple); actors (those directly engaged in the exchange of the produce e.g. farmers or producers, exporters, processors); those not directly connected (e.g. the state or government, development agencies and retailers); and the local conditions which structure production and exchange.

Identification of local conditions: Integrating smallholders into value chains is an important part of the development strategy pursued by developing countries. Changes in global governance however have put their integration at risk. Key to this study is how global governance (that is, the power of retailers) interacts with the rules which structure production and exchange in the Ghanaian context. To be able to account for this, this study makes two adjustments to the EC approach. First is how actors are classified: and second is how local conditions are grouped. A distinction is made between how actors are classified in both the EC approach and GVC studies on one hand, and this study on the

other hand. In GVC studies, actors in the chain are either internal or external. Internal actors are those who directly handle the product (e.g. global retailers, manufacturers, exporters); while external actors include the state and collective action organisations. The actions of internal actors will therefore be endogenous and those of external actors exogenous. The same line of thinking prevails in the EC approach, where the actions of actors who directly participate in a transaction are endogenous, while others are exogenous. The actions of the state, for example, are treated as endogenous only when it directly participates in the transaction (Section 3.3.5). However, from the perspective of a national boundary, factors outside the control of the country are exogenous to the chain and vice versa (Table 3.2). Thus, this study classifies internal actors as those within the confines of the country and external actors as those outside. So, the actions of the state, for example, are endogenous while that of the retailer is exogenous (Table 3.2). Also, there are two sets of actors within the group of internal actors (i.e. those who directly engage in the transaction and those who do not).

Table 3.2: Forces responsible for changes in governance in value chains

	Endogenous	**Exogenous**
Intended	Policies, strategies and tactics of farmers, exporters, processors, the state and development agencies.	Strategies and tactics of retailers, and international trade policy directly targeted at the value chain.
Unintended	Loops or feedbacks in systems of exchange	Shocks, strategies, tactics and policies not directly targeted at the value chain

Source: Author

Local conditions impose constraints and offer opportunities in the form of 'rules' for actors to act on (Cornelisse and Thorbecke, 2010:7). To identify these conditions, this study relies on secondary sources of data and interviews conducted with chain participants. Notably, local conditions prevalent in the Ghanaian agriculture sector include the land tenure system, infrastructure, access to and affordability of finance and business norms.

Although the general local circumstances identified by the EC approach are instructive, the export-oriented nature of the study's sector means that two other circumstances or situations - financial and organisational- must be emphasised. The organisational context is the private actors who are organised to pursue a common purpose or interest e.g. trade unions, donor agencies and producer associations are included in the study. Donor agencies, for example, play an important role in the interaction between participants in a value chain, especially in developing countries. They provide services, such as technical assistance, and support the organisation of small producers.

Also, the overall financial context of the local economy plays an essential role in agricultural producers' access to finance. Financial services assist in the lowering of transaction costs in an exchange, increase economies of scale and improve resource allocation (Beck, 2011). The transactions may be conducted through formal financial organisations (e.g. banks) or informal individuals and agents (e.g. money lenders). The finance sector is usually regulated by the government, but regulation in the informal sector may be lax. Access to finance by the government, households, and non-financial organisations is generally through different tools and under different conditions. For example, firms and organisations may access finance through bank loans after satisfying a collateral conditionality, while the government usually accesses low-interest loans.

For ease and convenience, I will reclassify local conditions (i.e. circumstances and actors) into the following broad groups; Economic, Social, Cultural, Political, Technological and Organisational. Economic conditions will include the country's level of economic development, access to and affordability of finance, availability of agricultural inputs, property rights and availability of appropriate infrastructure. Social conditions include the availability of labour and its skill level (Gereffi and Fernandez-Stark, 2011:11) and cultural conditions include norms governing interactions (Mohan, 2016). Political conditions include government policies (e.g. subsidies, taxation). While Cornelisse and Thorbecke (2010) do not include innovations in crop variety in the technological domain, new varieties may allow firms to alter the structure of the market, thereby influencing production and exchange. This is evident with the MD2 innovation. Other technological conditions may include agriculture equipment and the level and use of information and communication technology (ICT). Finally, organisational conditions refer to the availability and strength of private actors, such as producer associations and development agencies, to influence the activities of internal chain actors.

Interaction between Global governance and the Ghanaian local context: Ghanaian farmers and exporters participating in the global pineapple value chain are integrated into the chain through intermediaries. Small and medium-scale farmers are linked to exporters and processors, while exporters are linked to importers. Farmers, exporters and other chain participants have differences in resources (both tangible and intangible). Differences in resources generate divergences among producers and affect their bargaining power and the benefits of transacting (Cornelisse and Thorbecke, 2010:58). Linking small producers and exporters to markets therefore requires a reduction in transaction costs, increases in their productivity, assistance with standards compliance, and access to quality and affordable inputs, among others.

In the Ghanaian setting, the new global rules entailed higher production and transaction costs. MD2 had agronomic needs which were different from those of the Smooth Cayenne variety, which Ghanaian producers were used to. Producers had to acquire information on growing MD2, and use more inputs (e.g. fertiliser and plastic mulch) to successfully cultivate it. Furthermore, standards requirements meant that economies of scale were integral to market access and participation in the chain.

Typically, production and exchange between Ghanaian farmers and exporters are configured by challenges including: inadequate infrastructure, a large number of unorganised smallholders, little or no access to credit (finance), limited human capital, limited contract enforcement mechanisms, a complex land tenure system and weak inter-firm networks. Such challenges increase transaction costs. From the 1980s till the early 2000s, smallholder farmers, who are usually defined as cultivating between 2-10 hectares of land (Nagayets, 2005; Morton, 2007; Chamberlain, 2008), were responsible for about 40% - 60% of export volumes (Goldstein and Udry, 1999; Jensen, 2005; Whitfield, 2011). They were however largely unorganised, lacked access to market information and credit. Exporters were also small, lacked access to credit and highly mistrusted each other. Local conditions, such as high interest rates, lack of collateral and inadequate commitment of government and development agencies, also impacted the relationship between internal chain actors. Effectively, relations were governed under the market governance structure. The introduction of new product characteristics meant that both the complexity and codifiability of information increased; at the same time, the capabilities suppliers needed to participate in the chain also increased. The outcome of such a situation is the preference

for interactions with large producers who could readily meet and fulfil market demands. Exclusion from the chain was a very likely possibility for Ghanaian farmers and exporters. Although exclusion from the chain has implications for poverty reduction in the country, inclusion in the chain does not necessarily mean that development occurs in the chain. It is up to local conditions to negotiate or mediate the impact of changed product characteristics on actors and the chain's development. How this was done in the Ghanaian pineapple export sector is the focus of this study.

3.5 Concluding Remarks

In the GVC literature, dynamic movements in a value chain's governance structure are determined by movements in the variables determining governance-complexity of information, codifiability of information and capabilities of suppliers. How these variables are actually tackled in the local setting in which value chains are located is not dealt with. Building on theoretical insights of NIE, Cornelisse and Thorbecke (2010) have created a framework which emphasises the notion that production and exchange take place in a configuration shaped by the economic, social, political, technological and cultural contexts of a society. These conditions can impact both the characteristics of the item exchanged and actors; and interactions between actors and hence influence the form and content of transactions. Based on these ideas, I set out a framework in which governance of a value chain is determined by the interaction of actor characteristics, characteristics of the item exchanged and local conditions. The framework is applied to the Ghanaian pineapple export value chain to account for the evolution of governance from market to captive and/or hierarchy from the mid-1980s to 2013. Before applying the conceptual framework to the case study, Chapter 4 of this thesis will discuss the international pineapple value chain with a focus on Ghana's position in the chain.

Chapter 4 Situating Ghana in the Global Context

4.1 Introduction: The Global Pineapple Market

World production of fruits and vegetables from 1999-2001 increased by 49% over the period 1989-1991 (FAO Statistical Yearbook 2004:70). In 2003, production amounted to 1.3 billion tonnes (FAO Statistical Yearbook 2004:70) and increased to over 1.7 billion tonnes in 2013 (Freshplaza.com, 2014), an annual rate of 3% per annum (FAO Statistical Yearbook 2013: 138). In tandem, international trade in fruits and vegetables has also increased rapidly, with fresh fruits and vegetables representing 10% of total agriculture exports in 2013 (FAO Statistical Yearbook, 2010; WTO 2014).

Pineapple (Ananas comosus) together with bananas are the two most traded fruits globally (Kleemann, 2011). Pineapple is native to Brazil, Paraguay and Uruguay and is cultivated in tropical and sub-tropical locations in Africa, Latin America and Asia. There are over 100 varieties, but only 8 are commercially viable.[38] Also, out of the 8, only 4 varieties (Smooth Cayenne, MD2, Queen Victoria and Sugar Loaf) are traded extensively (Figure 4.1 and Table 4.1). Pineapples thrive in well-drained soils with pH between 4.5 and 6.5 (FAO, 2005b; USAID, 2011) and can be harvested between 12 – 18 months after cultivation. It takes between thirty and sixty days for the plant to flower, and ripe fruits are available one hundred and thirty-five days after flowering (MAG, n.d.).[39] The weight of the fruit depends on the following factors: variety, climate, density and crop husbandry. A ratoon fruit (i.e. second or third fruit) may occur after the first harvest, but the fruits are generally smaller in size, sweeter and less acidic than those of the first harvest (Paull and Duarte; 2011; Krigsvold, 2000:9).[40] Pineapples can be eaten whole (fresh) or processed (cut, juice, concentrate).

Fresh pineapples are marketed along two channels; conventional and niche (e.g. organic, Fairtrade, speciality).[41] The most important consuming countries are developed nations, especially the United States (US) and countries in the European Union (EU). Prior to the early 2000s, Costa Rica was a relatively minor exporter of fresh pineapples to the EU

[38] Pineapple, UNCTAD Commodity profile 2012
[39] Available at http://www.mag.go.cr/biblioteca_virtual/bibliotecavirtual/tec-pina.pdf
[40] The fruit of the mother plant is known as a plant crop (Paull and Duarte, 2011).
[41] 'Organic Agriculture as a production system that sustains the health of soils, ecosystems and people; relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects; and combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved (IFOAM, 2016; https://www.ifoam.bio/en/our-library/organic-basics#What is OA)

though it dominated the US market. Currently, it dominates both the EU and US markets, due to the introduction of the MD2 variety by the multinational company, Fresh Del Monte Produce.

Over a long period of time, the Smooth Cayenne variety was the only variety that could be exported fresh and/or canned (ISH, 2009; Loiellet and Paqui, 2012; CBI 2014b). However, this changed in the late 1990s when the MD2 variety took over the fresh export market. Data in this chapter spans the period 1989 to 2013, because of limitations in accessing consistent and accurate date prior to 1989. The years 1995 and 2005 are also focused on, because they refer to the immediate years prior to the introduction of MD2 and the domination of MD2 on the EU market, respectively.

This chapter gives an overview of the evolution of the international pineapple market, situating Ghana in the chain. Particular attention is paid to Costa Rica, Cote d'Ivoire and Ghana which were the three top exporters of pineapple to the EU until the mid-2000s. The early sections of the chapter will focus on the international pineapple market and value chain, and the latter sections will focus on the structure of the Ghanaian pineapple value chain from the mid-1980s to 2004. The data and value chain described in this chapter is based on the SITC commodity code, 05795, for fresh and dried pineapple.

Figure 4.1: Extensively traded varieties of pineapple

Source: UNECE (2012a)

Table 4.1: Technical characteristics of Extensively Traded Pineapple Varieties

	Smooth Cayenne	**Queen Victoria**	**MD2**	**Sugar Loaf**
Fruit form	Cylindrical	Trapezoid	Cylindrical	Bottle
Fruit colour	Ranging from green to orange/ yellow	Yellow–orange/ Yellow	Ranging from green to orange/ yellow	Green or orange/ yellow depending on origin
Fruit eye profile	Flat	Slightly Prominent	Flat	Flat
Flesh colour	Pale yellow	Yellow	Yellow/dark yellow	White or pale Yellow
Flesh firmness	Medium	Medium	Medium	Medium
Brix level ranging from	12.8–14%	13.5–16%	14.5–16.5%	13.5–15%
Flesh maturity homogeneity from bottom to top	Decreases as you reach the top of the fruit	Average	Homogeneous	Average

Source: CBI (2014d)

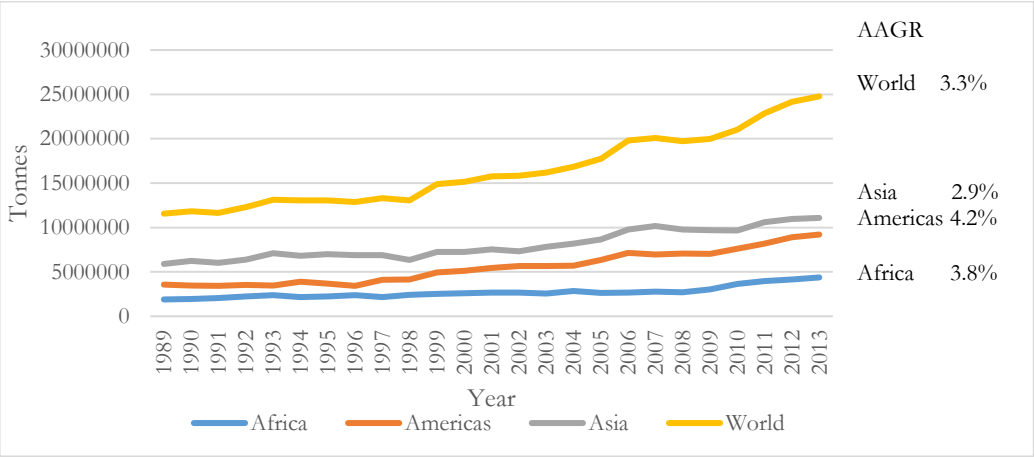
4.2 Production and Trade

4.2.1 Production

In a period of 25 years (1989-2013), world pineapple production has increased from over 11 million tonnes to over 24 million tonnes (Faostat, 2016), representing an average annual growth rate of 3.3%. The dominant producing area is Asia, accounting for over 11 million tonnes (44.7%) of production in 2013 (Figure 4.2). Although there are over 80 producing countries listed by Faostat, the top 10 producers in the world contribute over 70% of output (Table 4.2). However, most of their produce is domestically consumed as only about 13% is exported (CBI 2014d; Dawson, 2016).

The main producing countries are Thailand, Philippines, India and Indonesia in Asia; Nigeria and Kenya in Africa and Costa Rica, Brazil and Mexico in the Americas (Table 4.2).

Figure 4.2: World Production of pineapples by area (1989-2013)



Source: Faostat, 2016; Author analysis

Table 4.2: World Production of pineapples by country in tonnes, 1989-2013

Country	**1989**	**1995**	**2005**	**2013**	**Share of production in 2013**
Costa Rica	455,000	424,480	1,605,237	2,685,131	11%
Philippines	1,178,750	1,646,268	1,788,218	2,458,420	10%
Brazil	1,241,840	1,426,361	2,292,470	2,483,831	10%
Thailand	2,005,390	2,087,707	2,183,280	2,209,351	9%
Indonesia	215,405	703,300	925,082	1,837,155	7%
China	510,954	539,408	848,902	1,386,361	7%
India	787,000	1,060,000	1,278,900	1,571,000	6%
Nigeria	741,000	800,000	890,000	1,420,000	6%
Mexico	434,822	281,180	551,672	771,942	3%
Ghana	10,000	20,000	70,000	636,540	3%
Kenya	212,330	475,117	401,729	128,944	0.5%
Côte d'Ivoire	179,480	209,628	195,294	72,000	0.3%
World total	11,564,757	13,058,617	17,761,103	24,778,262	
Share of top 10 producers	72%	73%	72%	70%	

Note: Côte d'Ivoire and Ghana are not significant producers but rather significant exporters.

Source: Faostat (2016); Author analysis

4.2.2 Imports

The main end markets for pineapples are the EU and the US. Import quantity and value have more than quadrupled since 1989 (Figure 4.3). The demand for pineapples on the EU and US markets is satisfied by imports from non-EU countries.[42] Though Hawaii in the US produces pineapples, a shift in production overseas by MNCs has led to imports catering for demand.[43]

[42] Portugal is the only European country which produces pineapples but its tonnage is small and aimed at the internal market (Pay, 2009:4).

[43] Rising land and labour costs led Del Monte to move to Costa Rica in the 1970s and Dole to Thailand in

Figures 4.4 and 4.5 show the rapid growth in imports of pineapples to the EU market. From 1989 – 1995, extra-EU imports were consistently below 250,000 tonnes.[44] However, by 2005, imports had more than doubled to over 500,000 tonnes (i.e. an average annual growth rate of 10.8% from 1996-2005). The volume of imports peaked in 2008 recording over 900,000 tonnes but slowed thereafter because of the world financial crisis. From 2006 – 2013, import volumes grew at a rate of 4.7%.

The initial increase in imports is attributed to increased consumption because of the popularity of the new MD2 variety and falling prices (CBI, 2014d; Dawson, 2016).[45] Average consumption per capita in the EU in 2013 and 2008 was 1.8 and 1.7 pounds, respectively, a significant increase from 0.45 pounds in 2005.[46] From 2008-2013, Germany was the EU's top consumer of pineapples followed by the UK, Italy, France and Spain (CBI, 2014d). Peak seasons for the consumption of pineapples in the US and EU are during the Easter and Christmas seasons. In the US market, per capita consumption of pineapples has increased to almost 7 pounds in 2013, up from 2 pounds in 1989 (Figure 4.7)

By country, the four largest importers of fruits and vegetables in the EU are Germany, the United Kingdom, France and the Netherlands, with supplies dominated by Costa Rica (see Figure 4.6 and Appendix Chapter 4).[47] Ghana and Côte d'Ivoire are also important suppliers though they have lost significant ground since 2000. Imports to the US market are dominated by Latin American countries (Figure 4.8) with Costa Rica commanding an 88% share of the market in 2013, up from 82% in 2001. Recently, countries in Eastern Europe, the Middle East and China have increased their consumption of pineapples leading to the opening up of new markets for producing countries (ITC Market Insider, 2013).

1974.

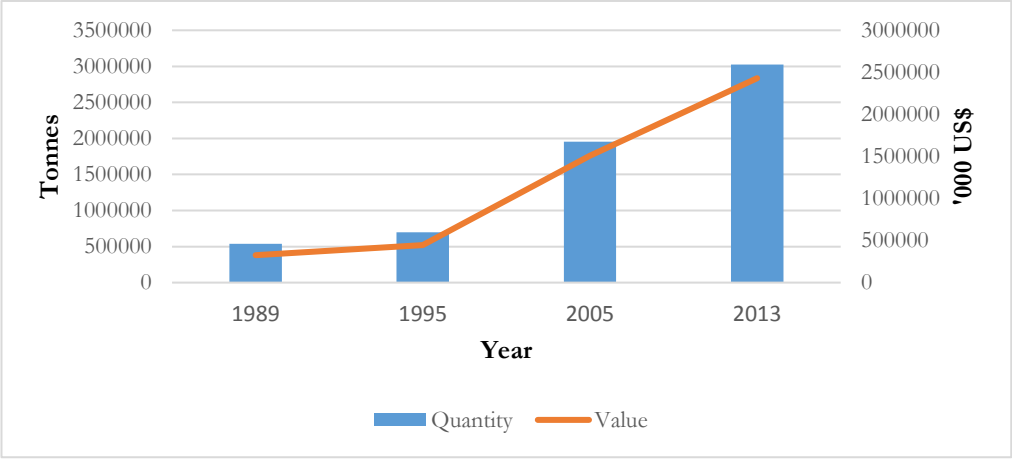
[44] Extra-EU 'refers to transactions with all countries outside of the *EU*: the rest of the world except for the European Union (EU).' Intra-EU 'refers to all transactions occurring within the *EU*.' (Source: Eurostat statistics explained, http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Extra-EU)

[45] As of 2009, over 75% of pineapple fruits sold in the EU market were of the MD2 variety (Pay 2009:4).

[46] Consumption per capita = Total supply/Population. Total supply = Total production + total imports-total re-exports.

[47] The Netherlands and Belgium are major re-exporters of pineapples to the EU because their seaports serve as the main arrival port for large banana carriers (Source: CBI, 2015).

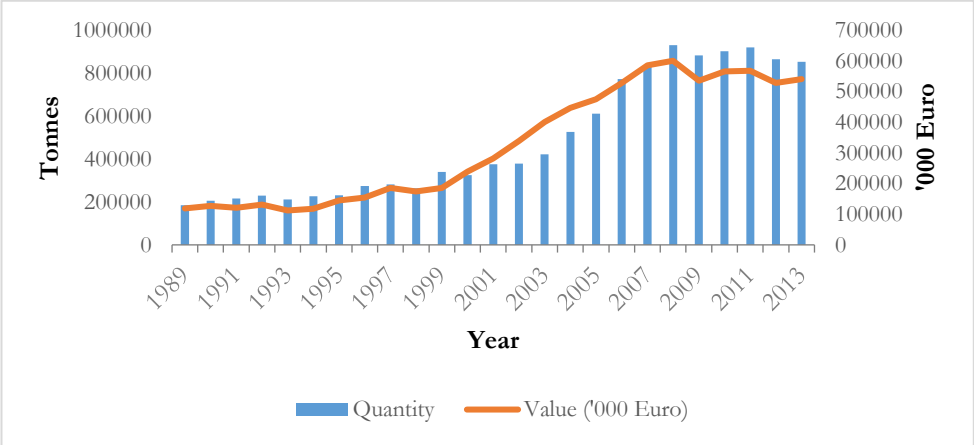
Figure 4.3: Total world imports of pineapple by quantity and value (1989-2013)



Note: Faostat 2016 data for years 1989, 1995. Trade Map figures for 2005 and 2013

Source: Faostat (2016) and Trade Map, International Trade Centre, www.intracen.org/marketanalysis

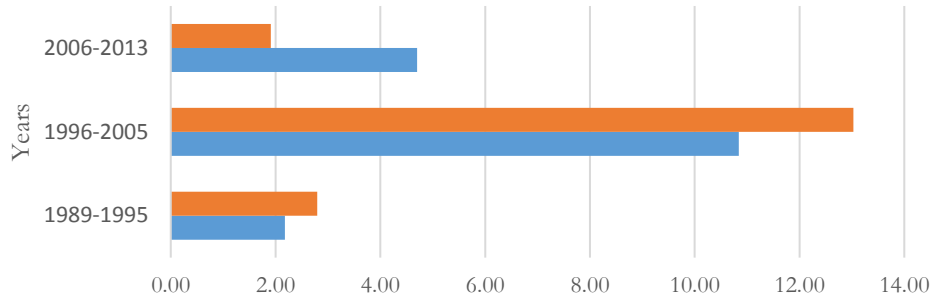
Figure 4.4: Imports of pineapple into the EU by quantity and value, 1989-2013



Note: EU 12 from 1989-1994; EU 15 data from 1995-1998; EU 27-extra from 1999-2013

Source: Eurostat Comext (2016)

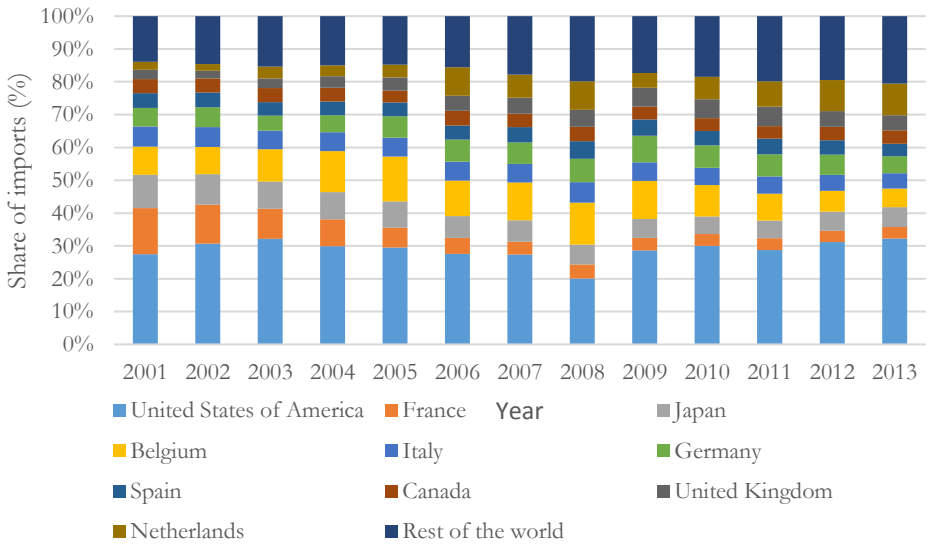
Figure 4.5: Average annual growth (%) of EU pineapple imports by value and volume, 1989-2013



	1989-1995	1996-2005	2006-2013
Value	2.80	13.03	1.91
Quantity	2.18	10.84	4.70

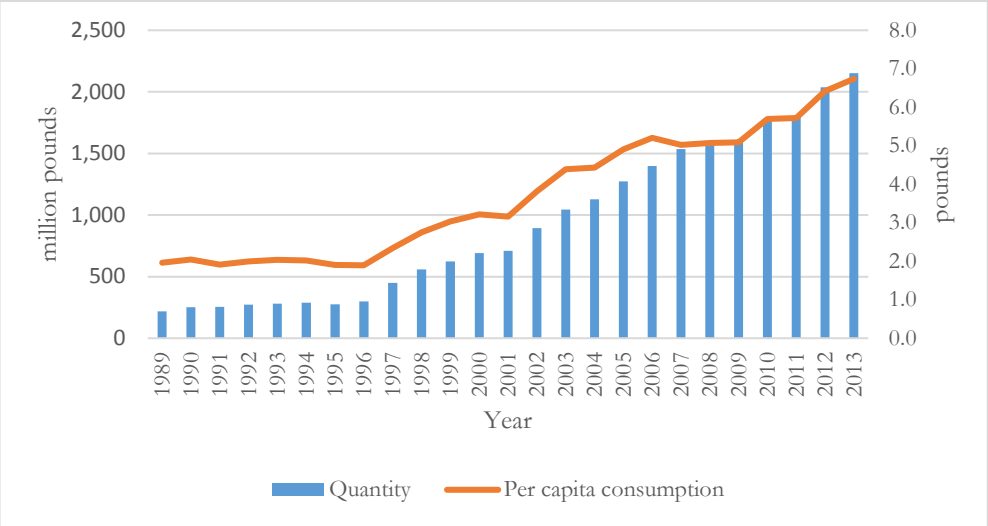
Source: Eurostat Comext (2016); Author Analysis

Figure 4.6: Share of top importers of pineapple by country (2001-2013)



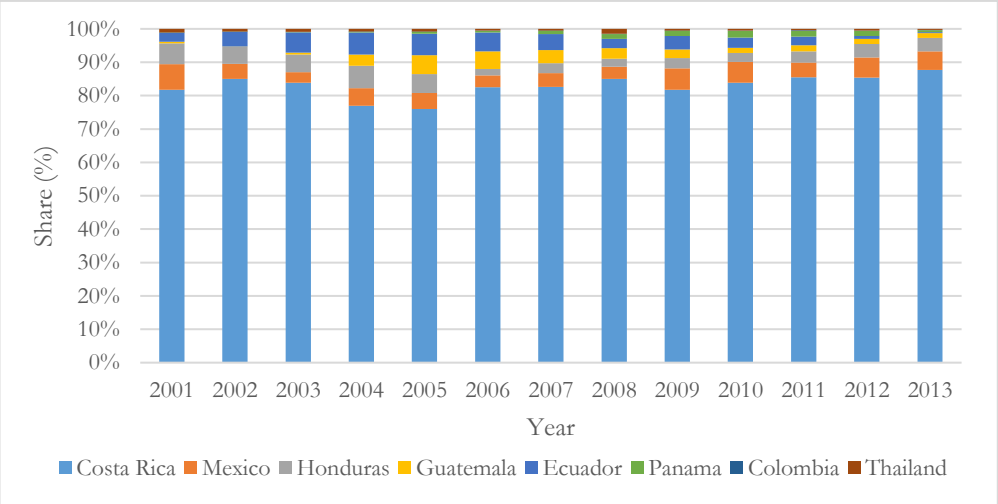
Source: Trade Map, International Trade Centre www.intracen.org/marketanalysis

Figure 4.7: US imports and consumption of pineapples 1989-2013



Source: ERS/USDA (2015)

Figure 4.8: Supply markets for US imports of pineapple (2001-2013)



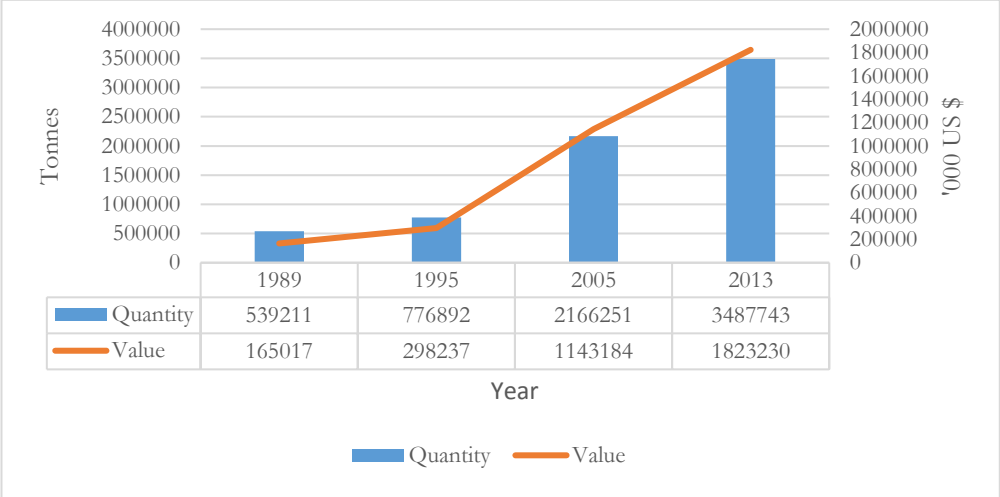
Source: Trade Map, International Trade Centre www.intracen.org/marketanalysis

4.2.3 Exports

Out of approximately 24.8 million tonnes of pineapples produced in 2013, 3.4 million tonnes, representing 13.7% were exported (Figure 4.9). Trade in pineapples takes place across two separate market channels, fresh and processed. Examples of processed pineapple products are pineapple juice, puree and concentrate. According to the ITC Market Insider (2013), 40% of pineapples produced is traded, with 68% traded fresh.

Globally, fresh pineapple exports have grown by an average annual rate of 7.91% over the last 25 years (1989-2013). Between the seven-year period of 1989-1995, exports grew by 5.5%. After the introduction of the new pineapple variety to the European market in 1996, exports grew by 11.3% from 1996-2005. The growth in exports has however slowed down to 5.83%. Exporting nations are in Africa, the Americas and Asia. The Americas, propelled by Costa Rica, account for over 50% of export volumes since 2005 (Figure 4.10). Africa's share in total world exports of pineapples has consistently declined over the 25-year period, due to the loss of market share by its main exporters to the EU, Côte d'Ivoire and Ghana. Overall, the growth in exports to the EU market over the last 25 years has been characterised by three main phases, discussed below.

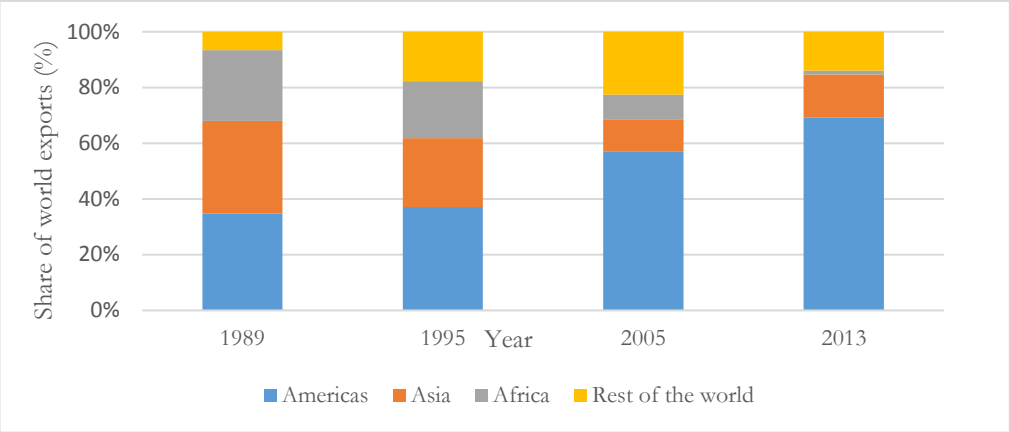
Figure 4.9: Total world exports of pineapples by quantity and value (1989-2013)



Note: 1989 and 1995 data from Faostat, 2005 and 2013 data from Trade Map

Source: Faostat 2016; Trade Map, International Trade Centre www.intracen.org/marketanalysis

Figure 4.10: Share of exports by region, 1989 - 2013



Source: Faostat 2016; Author analysis

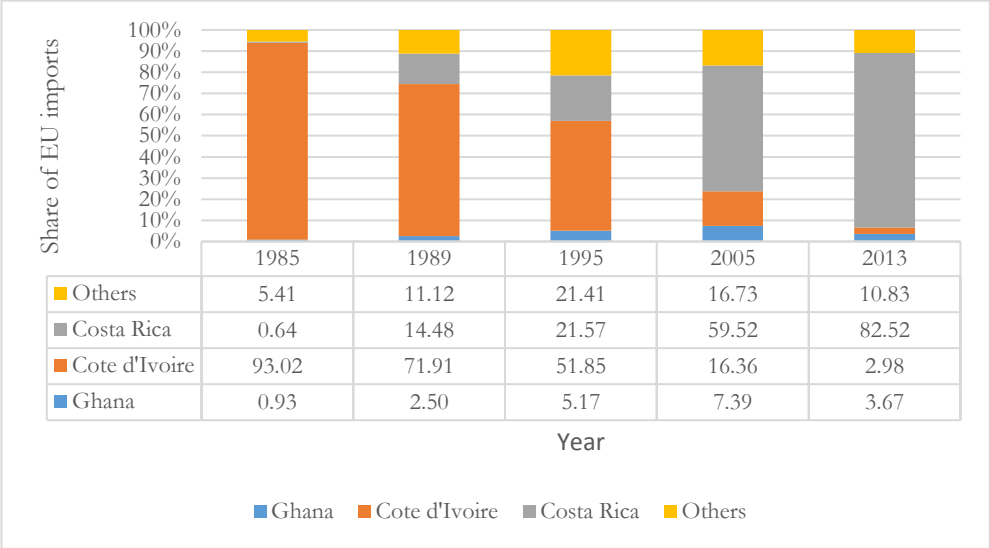
4.2.3.1 Early 1980s to mid-1990s: The dominance of Côte d'Ivoire

Côte d'Ivoire was the number one supplier of pineapples to the EU from the 1960s to the mid-1990s (Figure 4.11) after the supply of pineapples shifted from the Mediterranean area (Barret and Brown, 1996 in Takane, 2004:29; Dawson, 2016). Pineapple production in Côte d'Ivoire began in the 1940s, mainly for processing i.e. canning and juice (Vageneron, Faure and Loeillet, 2009; Colin, 2015).[48] The Ivorian industry shifted to the export of fresh pineapples in the 1980s when (a) Thailand expanded its exports of processed pineapples, leading to an increase in its market share and a decrease in world prices and (b) economic reforms in the early 1980s led to the reduction in state subsidies for production (Minot and Ngigi, 2004; Gorman and Webber, 2010). The success of the Ivorian industry over the period was attributed to (a) increasing demand for fresh fruits and vegetables in the EU (b) short distance between the EU market and SSA (c) SSA governments' policy of encouraging non-traditional exports and (d) state involvement in production and export (Minot and Ngigi, 2004; Takane, 2004; Vagneron, Faure and Loeillet, 2009). For example, the Ministry of Agriculture regulated the quality of pineapple produced in terms of shape, colour and brix level. The state also actively encouraged large-scale farming by licensing plantations which could export at least 800 tonnes of fruit per year, provided credit and inputs and disseminated technical assistance to producers through the parastatal Société pour le Développement des Fruits et Légumes (Vagneron, Faure and Loeillet, 2009:439). Thus, in 1985 Côte d'Ivoiré commanded a 93% share of total EU pineapple imports

[48] Production was done by the French colonialists or Ivoirian elites (Vagneron, Faure and Loeillet, 2009; Colin, 2015).

(Figure 4.12).

Figure 4.11: Share (%) of EU imports of pineapple, 1985-2013



Note: Data for 1985 sourced from USAID/Guinea, 2006. All others from Eurostat Comext

Source: USAID/Guinea, 2006; Eurostat Comext 2016; Author analysis

4.2.3.2 Late 1990s to early 2000s: The rise of Costa Rica

In a period of 5 years, from 1989 – 1993, the total area under pineapple cultivation in Costa Rica, increased by 49% from 4,700 hectares to 7,000 hectares (Jansen et al.,1996:20). However, a more significant increase in area under cultivation occurred between 1998 and 2008, when cultivated area increased from 9,300 hectares to 16,445 hectares, a 76% increase (SEPSA, 2004:51), as demand for Costa Rica's pineapples increased. The increase in demand and area cultivated was due to two factors; (a) innovation by Del Monte and (b) a consistent and determined state policy aimed at promoting non-traditional exports. In 1990, the share of Côte d'Ivoire in the EU imports of pineapple was about 68%. By 1995, the volumes from Côte d'Ivoire had declined by 25% and its EU market share had fallen to 52%, while Costa Rica had emerged as the second top exporter to the EU with a 21% market share (Figure 4.11 above). The decline in Côte d'Ivoire's market share was a result of several factors, including the withdrawal of the state from production. First was an appreciation of the national currency, the CFA franc. In 1985, US$ 1 was worth 499 CFA. This value fell to between 272 and 319 CFA francs from 1988 to 1991, making Ivorian exports more expensive (Ridler, 1993:307). A devaluation of the currency in 1994 helped to boost exports, but matters worsened from 1996 when Côte d'Ivoire experienced political instability, culminating in a civil war in 2002.

Pineapple production in Costa Rica began in colonial times (González, 2004). Two varieties were produced for commercial purposes for the domestic market; the Monte Lirio and Smooth Cayenne (den Hass, 1993; González, 2004).[49] The export arm of the sector did not take off until the late 1970s when the Pineapple Development Company (PINDECO), a subsidiary of Fresh Del Monte Produce (hereafter, Del Monte), set up operations in Buenos Aires de Puntarenas (in the southern part of the country) producing Smooth Cayenne for exports (Quijandria, Berrocal and Pratt, 1997). Accordingly, the total area under pineapple cultivation in Costa Rica increased from 4,700 hectares in 1989 to 7,000 hectares in 1993, with yields of 20 tonnes per hectare (Jansen et al., 1996: 20). Even then, Costa Rica was not a significant player on the world stage.

Costa Rica's economy was heavily dependent on banana and coffee exports in the 1960s and 1970s (INCAE, 1989; Clark, 1995; Cordero and Paus, 2008). Prior to the 1980s, the country, like other Latin American countries pursued an Import Substitution Industrialisation (ISI) Strategy.[50] From 1980 – 1982, Costa Rica experienced economic turmoil and adopted SAP policies in 1985.[51] In the 1980s and 1990s, the government's agricultural policy was known as 'Agriculture of Change' (Hansen- Kuhn, 1993; Botella Rodríguez, 2014). Being highly dependent on coffee revenues, a key component of its SAP policies was export promotion and diversification of exports. The Costa Rican Coalition for Development Initiatives (CINDE), established in 1982 is a private, not-for-profit organisation with the main objective of attracting investment (FDI) into the NTE sector (Clark, 1995; Paus, 2005; Cordero and Paus, 2008).[52] It was successful at doing so through the establishment of offices in the US, Europe, Japan and Hong Kong (Clark, 1995:2001).[53] Also, it was well staffed by workers from the USAID and other donor organisations In addition, by the Caribbean Basin Economic Recovery Act (CBERA) of 1983, Costa Rica's

[49] Monte Lirio was the domestic variety.

[50] The economy benefitted from ISI policies as it grew in the 1960s and 1970s at rates of 5.9% and 6.4% respectively (Paus, 2005:137).

[51] International events such as the oil crisis of the 1970s and declines in world price of Costa Rica's main export, coffee led to economic difficulties. Debt service reached 9.8 percent of GDP while external debt was 59.5 percent of GDP (Lanza, 1995:6)

[52] Lanza (1995) and Clark (1997) note that the Costa Rican government had established an export promotion agency, known as Centro de Promocion de Exportaciones e Inversiones (CENPRO) in 1968. It was aimed at promoting and attracting FDI into the NTE sector. CENPRO was however viewed as a failure because it did not possess the human, institutional and technical capabilities to see to a successful export promotion strategy. The USAID refused to work with it.

[53] CINDE (Coalición Costarricense de Iniciativas para el Desarrollo) was formed by Costa Rican private bankers, industrialists, top economists and the USAID. Its board of directors actively lobbied the state for many of the incentives given to the NTE (Clark, 1995:190).

exports to the US increased substantially.[54] The consensus on the performance of the country with respect to export promotion and diversification is that it has been extremely successful at diversifying its export base, especially with the attraction of FDI into the non-traditional export sector in the early 1990s (Clark, 1995; Paus, 2005; Ferreira and Harrison, 2012).[55]

In 1996, Del Monte introduced a new variety of pineapple, MD2, onto the market. MD2 (Millie Dillard 2) is a hybrid of two other pineapple varieties and is marketed as extra sweet or sweet golden. It was developed in Hawaii by the Pineapple Research Institute (PRI) with funding from several large fruit companies, including Del Monte, Maui Pineapple Company (MPC) and Dole Food Company Inc. (hereafter, Dole). When the PRI was dissolved in 1975, several cultivars were given to the Maui Pineapple Company and the fruit companies.[56] In 1993, Del Monte managed to get a 10-year patent for MD2 by arguing that they had sole rights to it. Although the other partners, Dole and MPC contested this right, Del Monte succeeded in preventing competitors and other producers from accessing MD2 for some time. The events of 9 September 2001 in the US forced Del Monte to look for new markets for its produce and thus it turned to Europe (NRI, 2010; Section B, p.21). Del Monte conducted an intense marketing campaign in Europe, promoting the advantages of MD2 over Smooth Cayenne (Danielou and Ravry, 2005; Fold and Gough, 2008; Kleemann, 2011). It succeeded in penetrating the European market.

The advantages of MD2 over the other varieties include; (a) a higher sugar content, better colour and can be harvested earlier than Smooth Cayenne (b) a lower fibre and acidity content and (c) a longer post-harvest shelf life of 30 days, compared with 21 days for other varieties (Pineapple: UNCTAD Commodity Profile 2012; Jaeger, 2008).[57] Finally, Del Monte in 2003 withdrew its case of patent infringement against other producers (Vagneron, Faure and Loeillet, 2009). Through PINDECO **t**he introduction of MD-2 propelled Costa Rica, which was hitherto, an insignificant producer of pineapples, to the leading producer and the world's topmost exporter to both the EU and US markets.

---

[54] CBERA was an Act by the US which encouraged the production and exports of non-traditional produce from Central American and Caribbean countries, into the US.

[55] According to Barham et al (1992:43), non-traditional exports refer to (a) a product not previously produced in a particular country (b) a product traditionally produced for the domestic consumption but now exported (c) a new market for a traditionally produced product

[56]MD2 was named after the wife of the general manager of the Maui Pineapple Company. (ISH, 2009 and http://www.chfusa.com/pineapples_md2.htm)

[57] MD2 however has a lower juice content than Smooth Cayenne making Smooth Cayenne the preferred variety for juicing purposes.

Pineapple cultivation in Costa Rica takes place in three areas; Huetar Norte (the largest producing region), Huetar Atlantica and Region Pacifico. As noted earlier, the state actively pursued a programme to attract FDI into the non-traditional export sector. In addition to economy-wide incentives such as exchange rate liberalisation, CINDE worked to promote several export incentives for the NTE sector. These incentives were enshrined in three export regimes: (a) export contract (b) free trade zones (c) draw backs (Clark, 1995: 195). All three regimes gave a 100% tax exemption on imported machinery and intermediate inputs to be used in the production of goods for exports. Under the export contract, specific incentives included the Certificados de Abono Tributario (CAT), tax credit certificates which entitled exporters of anything other than traditional exports, such as banana and coffee, to claim a refund of up to 30% of the export value of produce (Paus, 2005). In both the export contract and draw back regimes profits were 100% exempt from tax, while in the free trade zone, profits were non-taxable for the first eight years and at 50% for the next four years (Clark, 1995:195).[58] Although these incentives were extremely successful in attracting investment in NTEs, the CAT scheme, for example, was phased out from 1992 and totally discontinued in 1999, because it increased the fiscal burden of the state and was highly skewed in favour of large exporters. PINDECO alone received almost 50% of the certificates; and corrupt practices, such as over-invoicing and fictitious exports, were undertaken by some exporters (Aragón and Kreyns, 1994; Clark, 1995; Paus, 2005).

The state actively encouraged smallholder participation in the production of pineapples for export. In the 1990s, the Ministry of Agriculture and Livestock (MAG) and CINDE provided technical assistance, especially to small producers (Aragón and Kreyns, 1994; Clark, 1995; González, 2004). For example, the MAG embarked on the Programa Nacional Sectoral de Piña (The national pineapple programme). Under this programme, in the San Carlos canton (Huetar Norte region), pineapple cultivation was introduced to smallholder farms. In the district of Pital, over half of the agricultural land was under pineapple cultivation in 2007 (Piñeiro & Díaz Ríos, 2007). MAG provided a technology package as a guide to producers on pineapple production. It had information on the recommended levels of fertiliser application available for small producers (den Daas, 1993:7), while CINDE ran training programmes and funded conferences to provide new

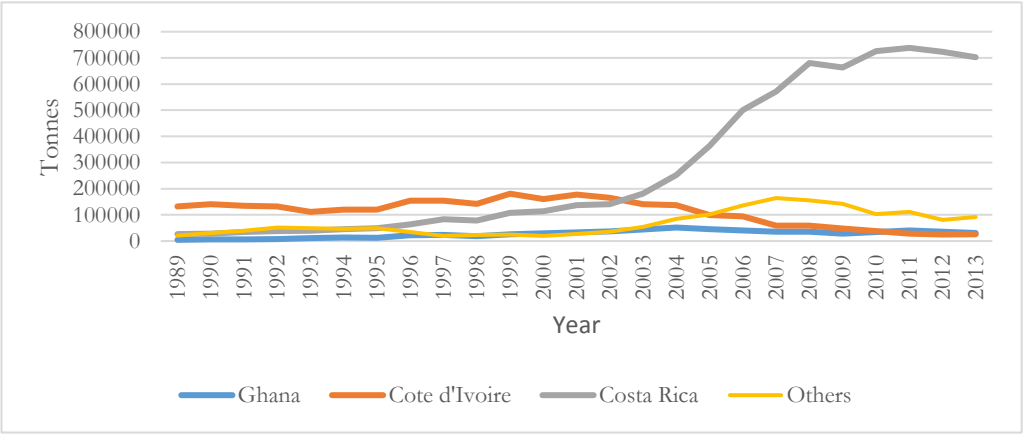
[58] According to Clark (1995:183), these incentives worked together with a well-educated workforce and good infrastructure to be successful.

information on technology, marketing and quality control to exporters (Clark, 1995:183).[59] In addition, years of producing bananas for exports in Costa Rica contributed to the ease of transferring knowledge on production processes in the pineapple sector. According to Incae (1989:6) familiarity with banana harvesting processes enabled pineapple producers to apply that experience to pineapple, ensuring the best quality produce.

Organisation of producers: Production was carried out by small, medium-size and large producers. However, only PINDECO, out of the 20 producing firms at the time, could be classified as large scale because it cultivated about 4,000 hectares of land while the others ranged between 150 and 240 hectares (Quijandría, Berrocal and Pratt, 1997:5-6). Small scale participation, however, depended on the production location. In the south, where PINDECO dominated production, there were only 17 small producers (Quijandría, Berrocal and Pratt, 1997). Comparatively, in the Huetar Norte area there were about 630 small producers, cultivating about 1,330 hectares of land because the state had encouraged settlement in the area and participation in pineapple cultivation (Quijandría, Berrocal and Pratt, 1997).

Initially, though PINDECO produced much of its own pineapple, it also contracted with small and medium size farmers and provided technology and machinery (Incae, 1989). Other producers in the sector in the early 1990s included Frutas Tropicales, Piña Tica and Improtsa (Quijandría, Berrocal and Pratt, 1997:6).

Figure 4.12: Pineapple exports to the EU by top 3 exporters (1989-2013)



Note: EU12 data from 1989-1994; EU 15 data from 1995-1998; EU27 data from 1995.
Source: Eurostat Comext (2016)

[59] Small and medium scale producers in the North Atlantic Zone however complained about not having sufficient knowledge regarding fertiliser application protocols (Jansen et al., 1996:30). This can be attributed to the fact that producers in this zone were new to pineapple production.

Table 4.3: Growth of exports of pineapple to the EU by top 3 exporters, 1985-2013

		Costa Rica	**Côte d'Ivoire**	**Ghana**
Average annual growth rate (1989-2013)	**Volume**	15.52%	-5.57%	11.93%
	Value	15.94%	-6.56%	12.67%
Average Annual growth rate (1989-1995)	**Volume**	11.76%	-2.47%	22.23%
	Value	14.51%	-3.08%	21.57%
Average annual growth rate (1996-2005)	**Volume**	23.09%	-0.36%	17.16%
	Value	24.96%	-2.43%	19.80%
Average annual growth rate (2006-2013)	**Volume**	9.34%	-14.79%	-3.50%
	Value	5.93%	-14.77%	-4.04%
2013 share of the market by volume		83%	3%	4%

Source: Eurostat Comext (2016); Author analysis

4.2.3.3 Mid-2000s – 2013: The dominance of Costa Rica

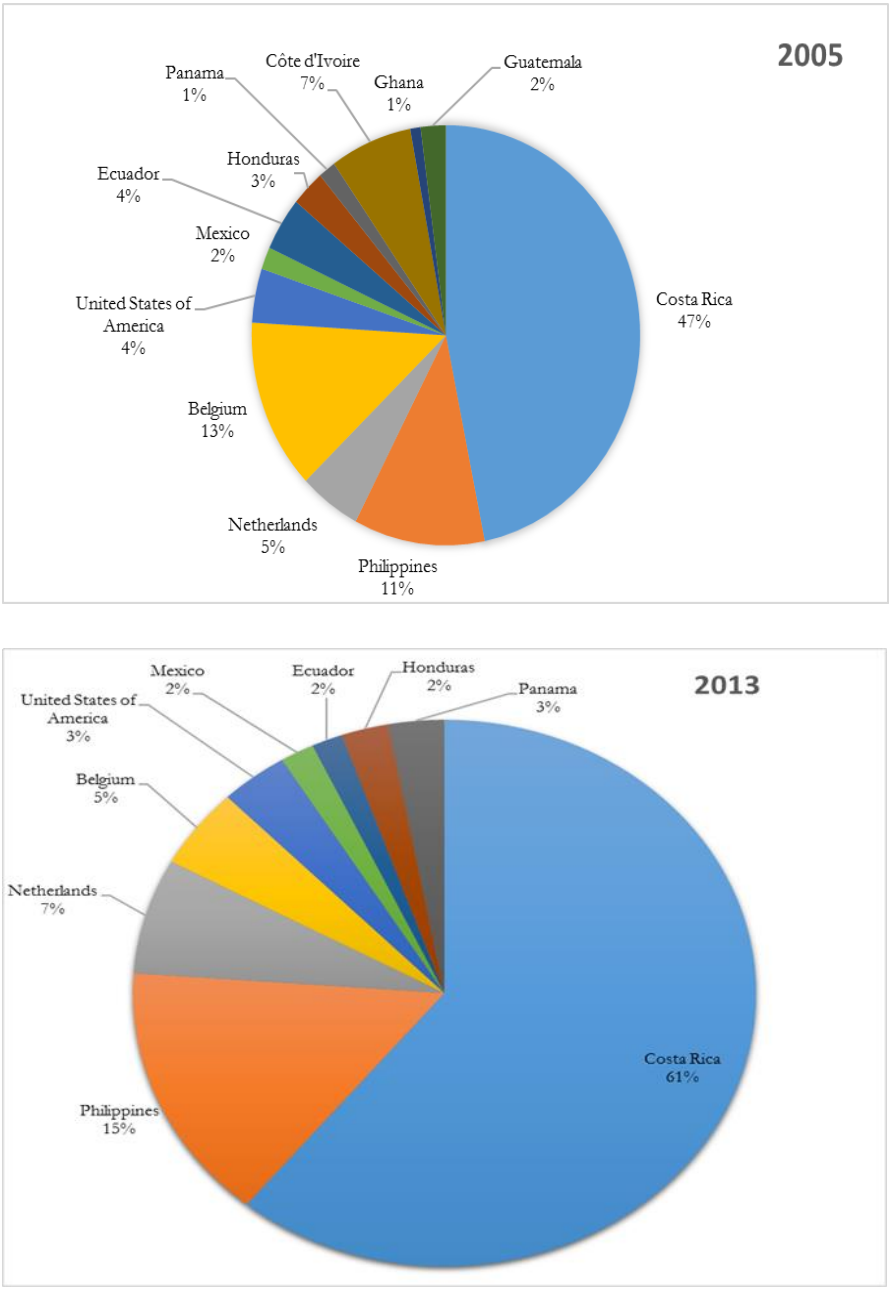
Costa Rica has come to dominate both production and exports of pineapple. The annual growth in pineapple production from 2004 to 2005 was 49%. From 2005, Costa Rica has consistently placed within the top 5 producers of pineapple worldwide, reaching first place in 2013, with 11% of total world production (see Table 4.1).[60]

Production has been spurred on by exports as Costa Rica has totally dominated the entire international pineapple market since 2005. Overall, in 2013 Costa Rica had a 61% share of total world exports of pineapple, up from 47% in 2005 (Figure 4.13). In value terms, Costa Rica's pineapple exports have almost tripled from US$328 million in 2005 to US$821million in 2013 (Figure 4.14). Contrasted with Côte d'Ivoire and Ghana, the share of both countries declined (see Figure 4.11) as average annual growth rates of exports from

[60] In annual average growth terms, production growth has slowed from 15% (1996-2005) to 8% (2006 – 2013). The president of Canepep in an article published in La Nación in 2010 had commented that growth rates will slow as there was a shortage of land for growing pineapples (La Nación, 16 August 2010).

2006 -2013 for both countries significantly fell (Table 4.3).

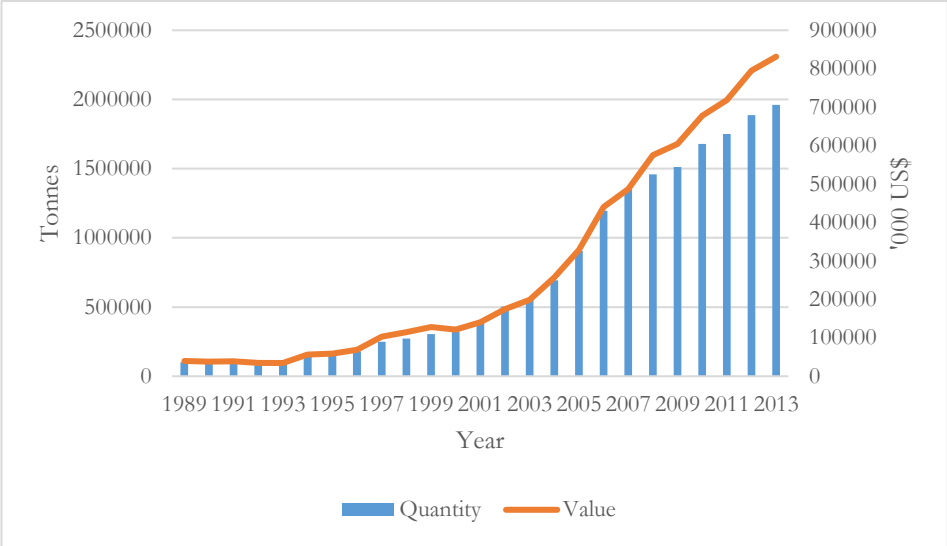
Figure 4.13: Share of world exports of pineapples by volume, 2005 and 2013



Note: Includes re-exporting countries

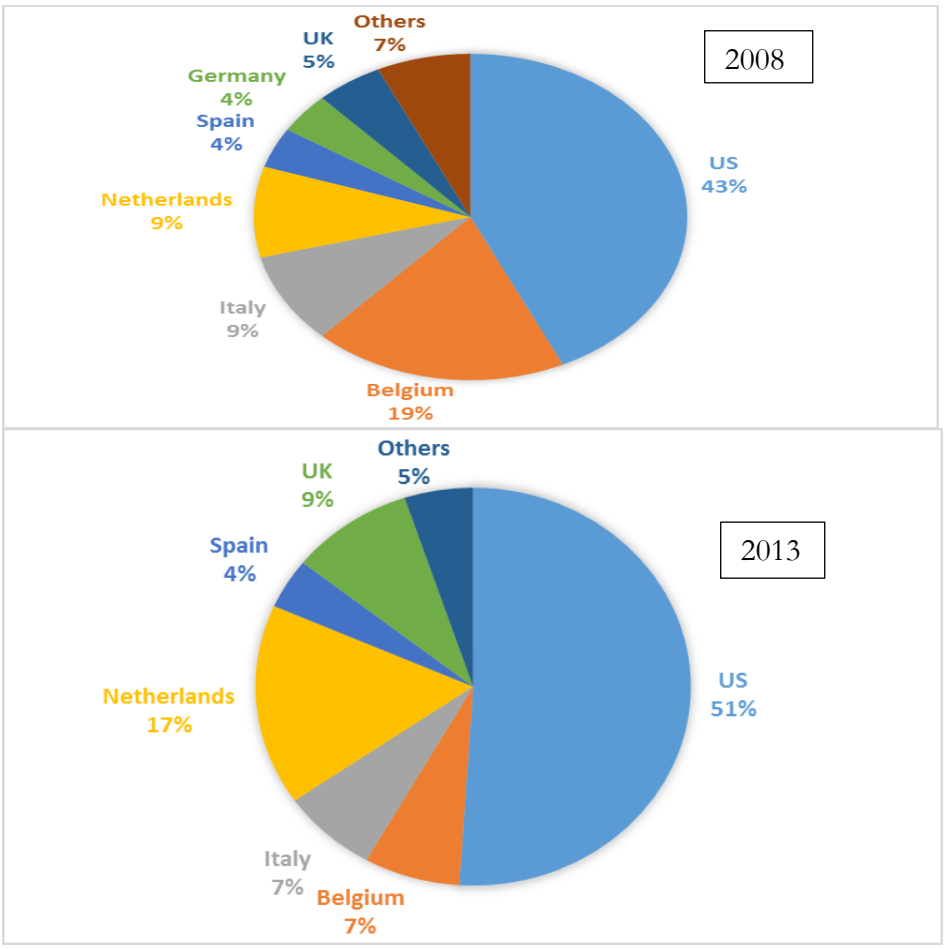
Source: Trade Map, International Trade Centre www.intracen.org/marketanalysis

Figure 4.14: Costa Rica's pineapple exports by quantity and value, 1989 – 2013



Source: Faostat (2016) and Trade Map, International Trade Centre www.intracen.org/marketanalysis

Figure 4.15: Share of countries in Costa Rica exports of pineapples, 2008 and 2013



Source: PROCOMER 2009 and 2014

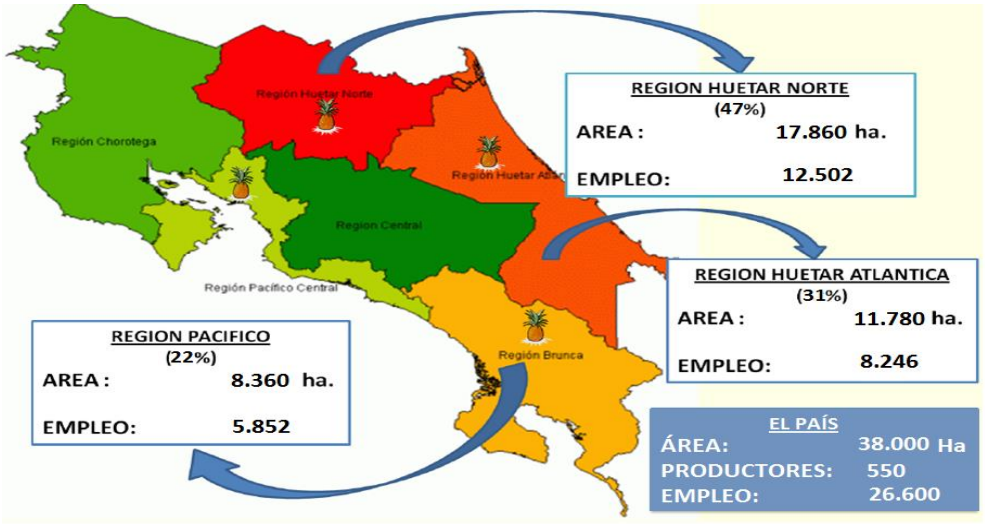
The organisation of producers in Costa Rica had begun to change by 2004. In 2005, 75% of producers were smallholders in Huetar Norte cultivated land sizes between 0.5 and 10 hectares (Piñeiro and Díaz Ríos, 2007: 62). This percentage had increased to 98% in 2007 and they contributed 5% of exported fruits (MAG, 2007). However, large scale producers came to dominate the sector partly because of the high initial cost of investment, US$9,900 per hectare, required to get into pineapple production (Piñeiro and Díaz Ríos, 2007:62) and the high costs of certification for small producers (MAG, 2007). Furthermore, there was low demand for fruits by small producers because no price differentiation existed for fruits produced by different scale producers (MAG, 2007).

In the Huetar Norte zone, large producers sold their produce to multinational companies such as Banacol S.A. (Gonzaleź , 2004:13). By this time also, PINDECO had stopped contracting with small producers. It rather had contracts with other large producers such as Dole, Chiquita and Banacol (Gonzaleź , 2004:13). Nonetheless, the state through

institutions such as the Consejo Nactional de Producción (CNP) and MAG encouraged the formation of farmer cooperatives which it saw as (a) a way to bypass intermediaries and gain more value for the farmers and (b) a way in which to direct credit and technical assistance to producers (Aragón and Kreyns, 1994; Fasciani, 2014). The assistance and attention given to small producers meant that as early as 2003, some cooperatives had begun cultivation of MD2 cultivars and had their own packing plants by 2004 (Fasciani, 2014: 69-70).[61] Such cooperatives are further assisted in marketing their products to buyers in Europe through the Asociación de Productores Usuarios del Programa de Desarrollo Agroindustrial de la Zona Norte (ASOPROAGROIN) (Fasciani, 2014: 69-70). [62]

Out of a total of 45,000 hectares of pineapple cultivated by 2013, the Chamber of Pineapple Producers and Exporters (CANEPEP) reported that its 550 members cultivate 38,000 hectares of land with 17,860 hectares in the Huetar North region, 11,780 hectares in the Huetar Atlantica region, and 8,360 hectares in the Pacifico region (Figure 4.16). The entire pineapple sector in 2013 had 170 pineapple exporters, 61 packing plants, 1300 smallholders and is said to provide 26,600 direct jobs (CANAPEP 2013).[63]

Figure 4.16: Share of pineapple cultivated areas in Costa Rica by CANAPEP members in 2013



Source: CANAPEP[64]

[61] One such plant was shut down in 2007 due to its inability to meet GLOBALGAP requirements (Fasciani, 2014:70).

[62] ASOPROAGROIN was an association of small and medium producers sponsored by the Programa de Desarrollo Agroindustrial de la Zona Norte (PROAGROIN) – (Fasciani, 2014:70).

[63] Available at http://canapep.com/estadisticas/

[64] Retrieved 08/02/15. Available at http://canapep.com/estadisticas/

4.2.4 Prices

The supply and demand of pineapples on the international market are the main factors influencing prices received by exporters; thus, price fluctuations are common. In peak demand periods of Christmas and winter, prices are relatively higher than in the low demand period of the summer season, when other fruits are available on the EU market. Also, weather conditions such as drought in the top exporting country, Costa Rica, influence prices. For example, increasing pineapple prices in 2013 were caused by drought, which led to poor harvest in Costa Rica. Other factors that affect price are quality and origin (CBI, 2008). Sea-freighted pineapples from Costa Rica, for example, receive a price premium over those from Ghana because of their consistent volumes and quality (Fieldwork Interviews, 2013).

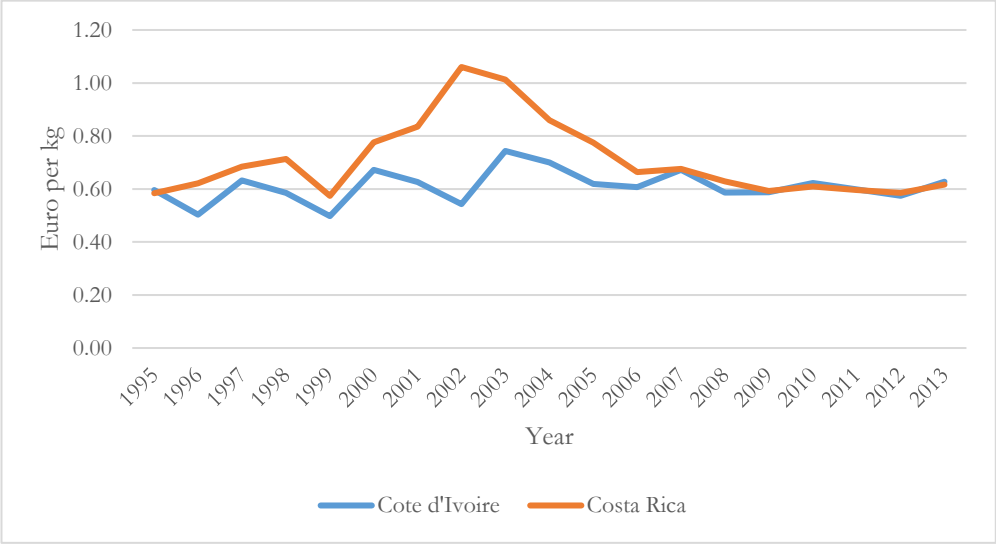
In the late 1990s to mid-2000s, pineapples exported from Costa Rica generally commanded higher prices than those of other countries. Import unit values at the aggregate EU level show that the price of Costa Rican exports of pineapples peaked at more than €1 per kg in 2003 (see Figure 4.17) and Costa Rica's price premium over other exporters could be as high as 49% (Table 4.4), because other exporting countries had not yet made the move to the cultivation and export of MD2.[65] According to USAID/Guinea (2006:8), the 27% average price differential in prices at the time was not attributable to poor quality or conditions of Smooth Cayenne but rather the market preference for MD2, as prices of Smooth Cayenne exported by air and sea from other African countries were comparable to Côte d'Ivoire's.

After the withdrawal of Del Monte's patent claim, leading EU importers increased their demand for MD2 (Klemann and Effenberger, 2010:2) and supply from other exporting countries began to rise, causing prices to begin to fall (see Figure 4.17). Pineapples which were once marketed as an exotic or luxury item (NRI, 1988) became very common. From 2007, oversupply had resulted in the convergence of import unit values of pineapples (Figure 4.17). Falling prices were further worsened by declines in the quality of MD2 exports as supplies had increased and the 2008 world financial crisis had caused a decrease in fruit demand (ITC Market Insider, 2013). Also, as more countries switched to MD2 production, the share of Smooth Cayenne exports declined, along with a decline in price. In Côte d'Ivoire's total pineapple exports, for instance, the share of Smooth Cayenne

[65] The process of obtaining consistent historical data on wholesale prices of fresh pineapple exports for Costa Rica, Ghana and Côte d'Ivoire proved extremely difficult and tedious.

decreased from 49% in 2001 to 13% in 2005 (Vagneron, Faure and Loeillet, 2009:441).

Figure 4.17: European Union import unit values, euro per kg (1995-2013)



Source: Eurostat Comext (2016); Author analysis

Table 4.4: Monthly Wholesale Price (Euro/ kg) of MD2 and Smooth Cayenne at the Rungis Wholesale market, 2004 – 2005.[66]

	Costa Rica (MD2)	**Côte d'Ivoire (Smooth Cayenne)**	**Costa Rica Price Premium**
2004			
October	1.07	0.80	34%
November	1.25	0.84	49%
December	1.22	0.84	45%
2005			
January	1.19	0.81	47%
February	1.39	1.08	29%
March	1.37	1.08	27%
April	1.33	0.96	39%
May	1.06	0.85	25%
June	1.00	0.85	18%
July	0.85	0.86	-1%
August	0.93	0.82	13%

[66] The Rungis Wholesale market is located in Paris, France. In 2012, it was composed of 1,204 companies with 11, 683 employees. 338 out of the 1,204 companies trade in fruits and vegetables. Total turnover in 2012 was €7,864million, of which 31% was for fresh fruits and vegetables (Source: CBI, 2014a; http://www.rungisinternational.com/)

September	1.01	0.72	40%
October	0.98	0.78	26%
November	0.80	0.78	3%
December	0.89	0.81	10%
Average	1.09	0.86	27%
Average per container	17.99	14.19	

Source: USAID/Guinea (2006:8)

Niche markets: There are no official statistics on the production and/or import volumes of organic pineapples although the EU is the largest market for organic pineapples. It is estimated that the majority of organic pineapple fruits in the EU are from Ghana (Kleemann, 2011:5), but increasingly also from Costa Rica (CBI, 2008; 2014). Supplying certified organic fruits is said to be more profitable than participating in the conventional market, as farmers receive a premium (Bolwig, Gibbon and Jones, 2009; Maertens and Swinnen, 2009). Organic pineapple exports from Ghana may suffer a decline, as one of the main producer-exporters (who also contracted with smallholders) decided to cease to operate as a pineapple producer and exporter in 2015, citing the difficulty in competing with Costa Rica (Personal conversation, 2015). He is now going into the cultivation and export of Stevia, a plant used in the production of sweeteners (Personal conversation, 2015).

Previously, the EU organic pineapple market was characterised by high prices, high quality and low volumes (Krigsvold, 2000; Eosta/ICCO, 2010). This was partly because the chemical ethylene, which is used in 'forcing' of pineapples, was prohibited by the EEC Regulation No.2092/91.[67] This rule was reversed in 2007. Large growers and MNCs who had anticipated the change in EU regulation began investing in organic pineapple farms around 2003 (Eosta/ICCO, 2010:8). Over time, these firms have increased their participation in the market, raising concerns that the organic market will eventually mimic the conventional market. From 2007, prices in the conventional pineapple market had begun to converge at low values. The niche market followed suit with low and highly

[67] The practice of 'forcing' fruits ensures that flowering occurs earlier than under normal conditions, so as to produce fruits sooner. Forcing is done using the chemical ethylene, ethephon or calcium carbide. These chemicals are labelled as pesticides, because 'pesticides include substances intended for use as plant growth regulators, defoliants, desiccants or agents for thinning fruit or preventing the premature fall of fruit, and substances applied to crops either before or after harvest to protect the commodity from deterioration during storage and transport (FAO Statistical Yearbook, 2013:16)

fluctuating prices, excessive supplies, declining quality: all reinforced by events on the conventional market (ITC Market Insider, 2013).

In 2009, in response to farmer complaints about low prices, Fairtrade increased the minimum prices for pineapples by an average of 14% worldwide (FLO, 2009b).[68] Since 80% of Fairtrade pineapple volumes are from Costa Rica and Ghana, they have country-specific minimum prices and premiums (FLO, 2009b; Table 4.5).[69]

Table 4.5: Price (USD per kg) of pineapples on the Fairtrade organic and conventional markets

Country/Region	**Market**	**Price level**	**Fair trade minimum**	**Fair trade premium**
Ghana	Organic	FOB	0.75	0.05
	Conventional	FOB	0.60	0.05
Costa Rica	Organic	FOB	0.83	0.05
	Conventional	FOB	0.66	0.05
West Africa (excluding Ghana)	Organic	FOB	0.72	0.05
	Conventional	FOB	0.60	0.05

Source: FLO (2009a), prices valid from 1 October 2009

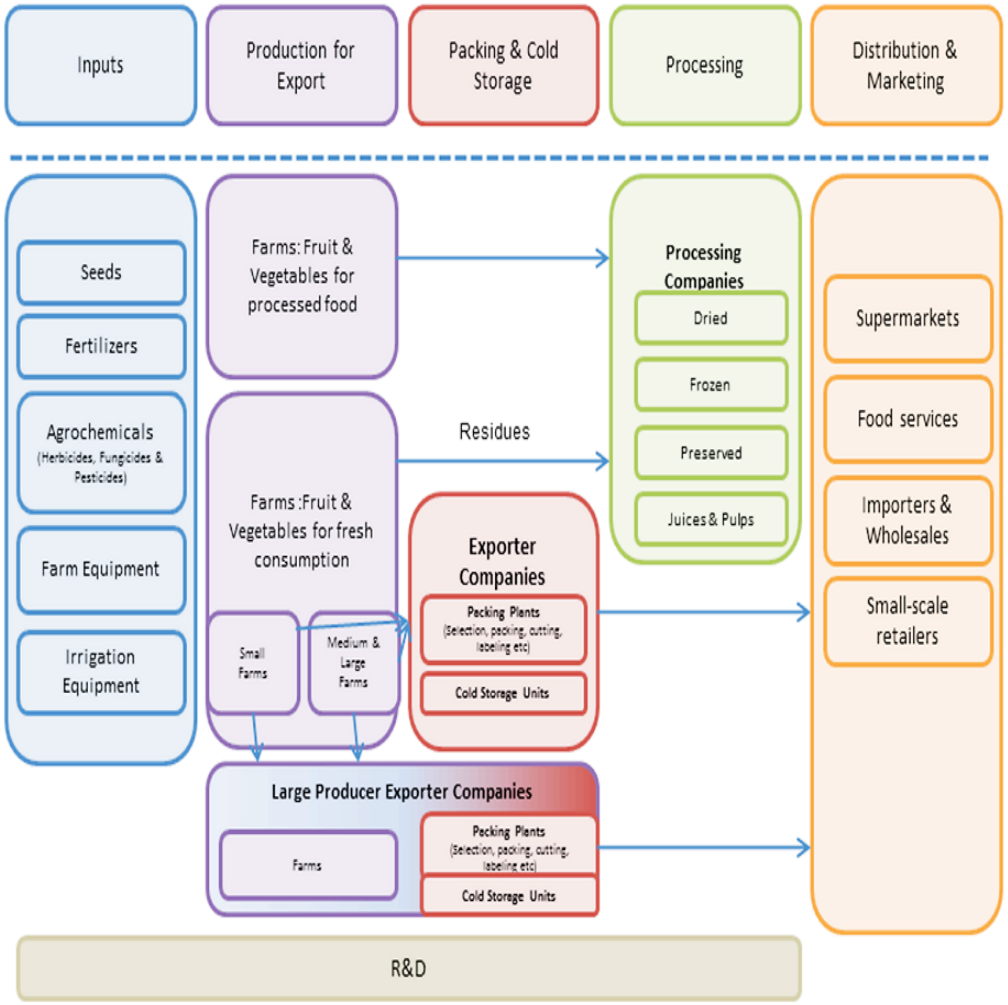
4.3 The Global Pineapple value chain

Based on the value chain of fresh fruits and vegetables, the global pineapple value chain can be divided into five stages: Input supply, Cultivation/Production, Packing and Storage, Processing, and Marketing and Distribution (Figure 4.18).

[68]FLO minimum prices refer to 'the lowest possible price that a buyer of Fairtrade products must pay the producer. The price is set based on a consultative process with Fairtrade farmers, workers and traders and guarantees that producer groups receive a price which covers what it costs them to grow their crop. When the market price is higher than the Fairtrade minimum price, the trader must pay the market price.' (www.fairtrade.org.uk/en/what-is-fairtrade/faqs)

[69] A FLO premium is 'an additional sum of money paid on top of the Fairtrade minimum price that farmers and workers invest in social, environmental and economic developmental projects to improve their businesses and their commodities' (www.fairtrade.org.uk/en/what-is-fairtrade/faqs)

Figure 4.18: The Global Fresh Fruit and Vegetables value chain



Source: Fernandez-Stark, Bamber and Gereffi (2011:12)

4.3.1 Governance of the Global pineapple industry

Governance of the pineapple value chain involves different players at both the global and national levels. At the global level, retailers (supermarkets) are the lead firms, as they determine what to produce, how and when. Such retailers include: Carrefour in France, Royal Ahold in the Netherlands, Tesco, Asda and Marks and Spencer in the UK. Globally, the pineapple value chain is buyer driven. Increasing concentration of retailers, control over consumer trends, quality-based competition amongst retailers and the enormous purchasing power of lead firms have shifted control of the value chain to retailers vis-à-vis importers and producers (suppliers) (Gibbon 2001a; Lee, Gereffi and Beauvais, 2012). In the UK, supermarkets controlled as much as 70-90% of fresh produce from Africa by 1999 (Dolan, Humphrey and Harris-Pascal, 1999:7).

Still, importers play a key role in the chain by acting as intermediaries between retailers and suppliers. Increasingly, actual buying responsibilities have shifted to importers. This is in response to increased competition in the retail sector and increased costs of managing fresh fruit and vegetable value chains, as these chains have volatile prices, fragmented suppliers and laborious quality control processes. Certain high volume importers who are usually highly-vertically integrated along the entire chain (e.g. Del Monte, Dole, Standard Fruit, Chiquita and Banacol) are equally major players in the chain, because of their ability to innovate (CBI, 2014a). The high mutual dependence between the two parties leads the pineapple value chain to be best described as a bilateral oligopoly.[70]

Restructuring of the global fruit and vegetable value chain, in response to increased competition, product differentiation, consumer demands and trade liberalisation in developing countries, has led to the need for more coordination between retailers and their suppliers. Product and process standards (or simply standards) have become the main tool of achieving the desired level of coordination. Standards (both public and private) point to a perception of high quality of the produce: thus 'standards are agreed criteria' or, as Hawkins states, 'external points of reference,' by which a product or service's performance, its technical and physical characteristics, and/or the process and conditions under which it has been produced or delivered can be assessed' (Nadvi and Wältring, 2004 in Humphrey and Memedovic, 2006:15).

In the 1990s, food safety became a topical concern, following food scandals in Europe and the US such as Salmonella in eggs and cantaloupe in the late 1980s and 1990s (Lee, 2006; Knowles, Moody and McEachern, 2007; Narrod et al., 2009). To protect the population, regional bodies, such as the European Union (EU), imposed some laws to govern the imports and sale of food, including fruits and vegetables. Legislation specific to food includes (a) The General Food Law (Regulation (EC) 178/2002) (b) Hygiene of food stuff (Regulations (EC) 852/2004; 853/2004, 854/2004). Those relating to pesticide use and contaminants; include (a) Maximum Residue Levels (MRL) (Regulation (EC) 396/2005) (b) Microbial contamination of food stuffs (Regulation (EC) 2073/2005) (c) Contaminants in food (Regulation (EC) 1881/2006) (c) Certificate of Conformity (d) Certificate of Industrial Use. Specifically targeting the fruits and vegetable sector is the quality standards for the

[70] 'A bilateral monopoly/oligopoly is a situation where there is a single (or few) buyer(s) and seller(s) of a given product in a market. The level of concentration in the sale or purchase of the product results in a mutual inter-dependence between the seller(s) and buyer(s)' (OECD Glossary of Statistical terms, https://stats.oecd.org/glossary/detail.asp?ID=3152)

marketing of fresh fruits and vegetables regulation (Regulation (EC) 2200/96). Rules on packaging include (a) Materials coming into contact with food (Regulation 1935/2004) (b) General requirements on packaging (Directive 94/62/EC). These mandatory public regulations inspired 'voluntary' private standards at both the industry-wide and retailer specific levels, since national and EU laws made retailers responsible for food safety (Busch and Bain, 2004; Jaffee and Henson, 2004; UNCTAD, 2007; Henson and Humphrey, 2009). For example, the UK's Food Safety Act of 1990 legislated that any person who sells food for human consumption which does not meet the requirements of the law is guilty of an offence and liable for any financial losses. Hence, retailers and wholesalers could be liable for an offense caused by others e.g. farmer, exporter or the importer.

Types of standards: Private standards can be grouped into individual firm standards or collective standards. They have evolved over the years from the tangible or visible characteristics of a good or product to intangible characteristics, such as taste (Gibbon, 2008:40). According to Henson and Humphrey (2010), private agri-food standards are usually developed by commercial entities, enforced by third party certification and are voluntary. However, since they are adopted by most retailers or developed by them, it becomes necessary to have the certification in order to export to these retailers (i.e. participate in the value chain). Agri-food standards generally are in relation to pesticide residues, traceability and field and packhouse operations (Lee, 2006; Narrod et al., 2009).[71] Traceability involves the ability to track a fruit from its origins and thus requires constant monitoring and documentation from the pre-farm activities to post-harvest and finally consumption. Pesticide residues communicate the maximum amounts of pesticide residues legally permitted in a fruit, while field and packhouse operations involve activities such as the appropriate temperature at which to keep fruits from post-harvest to consumption.

These standards, though voluntary, are much stricter than EU laws; because they go beyond what is required by national governments to cover various topics like labour, food safety, environment and ethics. For example, British Retail Consortium (BRC) and International Food standards cover food safety; IFOAM covers organic production methods and GLOBALG.A.P. covers multiple topics including food safety, processing,

[71] The British Food Safety Act (1990) and the EU food law (2008), for example, require the retailer to ensure that the food it sells is safe for consumption and can be traced from production to consumption.

environment and labour.[72]

The most important private standard in the fresh fruit and vegetable industry for participation in the European market is GLOBALG.A.P. It is a pre-farm standard that seeks to harmonise good agricultural practices all over the world. It is recognised in over 100 countries and is made up of more than 50 international retailers and producers from countries such as Germany, Japan, Netherlands, the UK and France. The standard applies to activities along the entire production chain, including land preparation, soil management, post-harvest handling, packing, storage, quality control, pest and weed control, etc. Since GLOBALG.A.P. is not a marketing tool, producers do not earn a premium from subscribing to it, unlike the Fairtrade standard. Since the mid-2000s, GLOBALG.A.P. has become a pre-requisite to access the European market and, as at 2006, GLOBALG.A.P. retailers controlled 85% of Western Europe's fresh produce market (Lee, 2006:13). Producers who desire GLOBALGAP certification must have a Quality Management System (QMS) which is benchmarked to the control points in Table 4.6. Adherence to the QMS is audited by a certified third-party.[73] Certification can take place through four channels:

- Option 1: Individual producers with single or multiple sites of production
- Option 2: Producer groups. This option makes it possible for small and medium-scale farmers who cannot achieve certification on their own due to monetary and technical requirements, to form groups in order to achieve certification. All producers in this group must adhere to an internal QMS which governs the production of products to be certified.
- Option3 and 4: Individuals and producer groups that are certified using local standards benchmarked to GLOBALG.A.P.

Other international standards applicable to pineapple production are the Hazard Analysis Critical Control Points (HACCP) and ISO 9000. HACCP is a risk management tool which applies to food processing companies worldwide. It 'identifies specific hazards and establishes control systems that focus on prevention rather than mainly on end-product testing' and must be adapted to the specific situation of each production firm (Lee,

[72] GLOBALG.A.P. was formerly known as EUREPGAP.

[73] Only one firm (SGS Ghana), is certified as a GLOBALGAP certification body in Ghana.

2006:9).[74] One of the most important control points in the HACCP is the temperature at which food should be handled, prepared, transported and stored. All producers and exporters of packed fresh fruits and vegetables to the UK, must in addition, meet the BRC standard. The BRC is generally based on HACCP and ISO 9000 principles. On top of the above-named industry-wide standards, specific standards set by retailers, such as Tesco's Nature's Choice, Marks and Spencer's from Farm to Fork and Carrefour's Filiere Qualite, must be met by their suppliers.

Table 4.6: Examples of GLOBALG.A.P. product and process quality requirements

Control Point	**Compliance Criteria and Level**
Soil Management and Conservation: Have soil maps been prepared for the farm?	The types of soil are identified for each site, based on a soil profile or soil analysis or local (regional) cartographic soil-type-map. Level: Recommended
Traceability: Is GLOBALG.A.P. registered product traceable back to and trackable from the registered farm (and other relevant registered areas) where it has been produced and, if applicable, handled?	There is a documented identification and traceability system that allows GLOBALG.A.P. registered products to be traced back to the registered farm or, in a farmer group, to the registered farms of the group, and tracked forward to the immediate customer (one step up, one step down). Harvest information shall link a batch to the production records or the farms of specific producers. Produce handling shall also be covered if applicable. Level: Major Must
Fertilizer Application: Are recommendations for the application of fertilizers (organic or inorganic) provided by competent and qualified persons?	Where the fertilizer records show that the technically responsible person determining the quantity and type of the fertilizer (organic or inorganic) is an external adviser, training and technical competence shall be demonstrated via official qualifications, specific training courses etc., unless employed for that purpose by a competent organization (e.g. official advisory services)

[74] It is based on guidelines prescribed by the FAO/WHO Codex Alimentarius Commission.

	Where the fertilizer records show that the technically responsible person determining quantity and type of fertilizer (organic or inorganic) is the producer, experience shall be complemented by technical knowledge (e.g. access to product technical literature, specific training course attendance, etc.) and/or the use of tools (software, on farm detection methods, etc.) Level: Minor Must
Application dates	The exact dates (day, month and year) of the application are detailed in the records of all fertilizer applications. No N/A. Level: Minor Must
Applied fertilizer types?	The trade name, type of fertilizer (e.g. NPK), and concentrations (e.g.17-17-17) are detailed in the records of all fertilizer applications. No N/A. Level: Minor Must
Pre-Harvest: Quality of water used on pre-harvest activities	A written risk assessment of microbiological quality of the water is conducted. It includes water source, proximity to potential sources of contamination, application timing (growth stage of the crop), application method, and placement of application (harvestable part of the crop, other parts of the crop, ground between crops, etc.). Level: Major Must
Harvest and Post-Harvest Activities: Training - Have workers received specific training in hygiene before harvesting and handling produce?	There shall be evidence that the workers received specific induction and annual training regarding the hygiene procedures for the harvesting and product handling activities. Workers shall be trained using written (in appropriate languages) and/or pictorial instructions to prevent physical (e.g. snails, stones, insects, knives, fruit residues etc.) microbiological and chemical contamination of the product during harvesting. Training records and evidence of attendance shall be available.

	Level: Major Must
Sanitary facilities: Are there suitable changing facilities for the workers?	The changing facilities should be used to change clothing and protective outer garments as required. Level: Recommended
Pest Control: Is there a system for monitoring and correcting pest populations in the packing and storing areas?	Producers shall implement measures to control pest populations in the packing and storing areas appropriate to the farm condition. No N/A. Level: Major Must

Source: GLOBALG.A.P. (2016)

Impact of standards: The widespread use of standards has led to debates on whether they are barriers to entry for producers, especially small producers (Lee, Gereffi and Beauvais, 2012) or whether they may boost the competitiveness of developing countries and improve upon their export performance through the reduction of transaction costs (Jaffee and Henson,2007).

On the one hand, standards impose considerable financial, information and physical costs on producers and suppliers, increasing the risk of exclusion of those who are unable to meet these costs. For small exporters and producers, costs of compliance with standards are high and risky as investment returns require a minimum threshold of production to be profitable. Thus, many smallholder producers and small exporters in developing countries could be driven out of the market, because of their limited access to credit and other resources. (Dolan and Humphrey, 2000; Jensen, 2005; Maertens and Swinnen, 2009; Graffam et al., 2007, cited in Henson and Humphrey, 2010).

On the other hand, standards have reduced transaction costs by making available the necessary information required to produce and trade in value chains. A report by the OECD in 2007 on the impact of standards on the Ghanaian pineapple sector showed that respondents perceived that they were more efficient in their business operations as they now knew exactly what to do and not to do. Admittedly, uncertainty about the quality and quantity of produce leads to increased real costs of production; hence knowing exactly what to do and how to do it would lead to a reduction in costs. In Senegal's fresh fruits and vegetable export sector, export earnings have increased since the quality of the products

has increased (Maertens and Swinnen, 2008).

4.3.2 The structure of the Global pineapple chain

Production for exports: Within countries, the production node is characterised by a concentration of producers, with the majority of volumes produced on plantations owned by fruit and vegetable MNCS, such as Dole, Del Monte, Banacol, Compaigne Fruitere and Flyffees, or their contracted independent growers in a number of countries (ILRF, 2008; CBI, 2015). Del Monte in Costa Rica accounts for over 50% of the country's exports, while Dolefil (Dole's subsidiary in the Philippines) dominates the Philippine market. These MNCs operate across all the stages of the value chain.

SSA's participation in the value chain largely focuses on the cultivation (production stage) of pineapples. Activities carried out include: planting, harvesting, cleaning, packaging and storage. Whereas before 2004 smallholders and outgrowers dominated production, production is largely currently done by large scale producers or MNCs.

Imports: The organisation of the import market has evolved over the past few years. Previously, wholesalers were the main actors; however, in recent years the retail market (super/hypermarket) has become increasingly concentrated. For example, over 80% of horticultural produce is sold by seven supermarkets in the UK, and 96% of all freshly prepared fruit was sold by supermarkets in Europe (World Bank, 2011a:54). Concentration and more stringent buyer requirements have led retailers to establish direct contact with importers (mainly MNCs) who ship directly to them (CBI 2014a; 2015). Thus, on the EU market, the imports of pineapples are dominated by a few highly-integrated fruit and vegetable MNCs which supply high volumes at low prices (Rohrbach et al., 2003 in Wilson, 2010; CBI, 2015). Importers have three types of buyers; retailers, wholesalers and other EU countries (re-exports). 65% of MD2 pineapples are sold by retailers, 10-15% by wholesalers and 20-25% is re-exported (CBI, 2014a).

Pineapple fruits are classified into three quality categories; Extra class, Class 1 and Class 2 (CBI, 2015). The requirements for classification are given in Table 4.7. Extra Class fruit sizes are 1.5 kg and above, Class 1 sizes are between 1.1kg and 1.5 kg, and Class 2 sizes are less than 1 kg. The European market prefers small sized fruits hence majority of the fruits sold on the EU market are classified as Class 1 (CBI, 2015).

Transportation is through two avenues; sea or air. Over 99% of MD2 pineapples sold in

the EU are transported by sea, together with banana imports (CBI, 2014b; 2015). 100% of MD2 exports from Latin American countries are by sea, compared with 90% for African exporters (CBI, 2014a). The remaining 10% is air freighted.[75] Air freights also occur for Sugar Loaf and Smooth Cayenne varieties and processed pineapple e.g. fresh cut.[76] To keep the products fresh and improve their shelf life, pineapples are transported in refrigerated containers at an optimal temperature between 8° and 10°Celsius.[77] Transit time from West Africa to Europe is between 10 and 15 days (approximately two weeks). Sea vessels which undertake transportation include Delmas and AEL. When imports arrive in the destination country, a quality inspection is carried out before they are transported to the importer's own warehouse or the retailer's.

Since sea freighting requires substantial volumes, transportation is controlled by large players: importers (e.g. Dole, Del Monte) and the supermarkets (e.g. Asda, Sainsbury, and Tesco). Small players are practically non-existent here and to transport their produce, they must come together. For example, Ghanaian pineapple producers put together their volumes to buy space on a vessel controlled by the only MNC in the Ghanaian pineapple industry.

When pineapple, is air freighted, it is transported by passenger airplanes, such as KLM, British Airways and Air France, or cargo planes. Approximately 70% of the pineapple that is air-freighted is of the Smooth Cayenne variety and is targeted at niche markets which pay a price premium for it (CBI, 2014a). Wholesalers are the main actors here, selling up to 90% of the volume imported (CBI, 2014a).

[75] Ghana is the only African country which exports some amounts of MD2 by air (CBI, 2014a)
[76] Côte d'Ivoire is the only country still exporting Smooth Cayenne by sea (CBI, 2014)
[77] Temperatures below 8°-10°Celsius cause bruising to the fruit.

Table 4.7: Requirements for the classification of pineapples

Minimum requirement for all classes	Intact, with or without crown. If present, the crown may be reduced or trimmed. ● Sound; produce affected by rotting or deterioration, such as to make it unfit for consumption is excluded. ● Clean, practically free of any visible foreign matter ● Free from pests ● Free from damage caused by pests affecting the flesh ● Fresh in appearance, including the crowns ● Free if abnormal external moisture ● Free of any foreign small and/or taste ● When a stalk is present, it shall not be longer than 2.5 cm measured from the shoulder of the fruit and the cut must be transversal, straight and clean. However, during transportation, pineapples with longer stem are excluded from this requirement. ● The development and condition of the pineapples must be such as to enable them withstand transportation and handling.
'Extra' Class	If the crown is present, it should not exceed 150% of the length of the fruit. ● It must be fresh and not discoloured ● Flesh must be perfectly sound ● Fruits must be free from defects with the exception of very slight superficial defects, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package

Class 1	The crown, if present, must be single and with no side-shoots and should not exceed 150% of the length of the fruit. It may be: ● Slightly damaged ● Slightly discoloured ● Slightly curved with a maximum inclination not exceeding 30° from the longitudinal axis of the fruit. ● Flesh must be perfectly sound. However, the following slight defects may be allowed if they do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package: ● A slight defect in shape ● Slight defects in colouring including discolouration caused by the sun ● Slight skin defects not exceeding 5% of the total surface area ● Slight bruises
Class 2	Fruits in this class do not qualify for classification in the higher classes but satisfy the minimum requirements presented above. ● Flesh must be free from major defects The following defects may be allowed if they do not affect the general appearance of the produce, the quality, the keeping quality and presentation: ● Defects in shape, including a double crown ● Defects in colouring, including sun-scorch ● Skin defects not exceeding 10% of the total surface area ● Bruises

Source: UNECE (2012b)

Marketing and Distribution: Majority of sea freighted pineapples meant for Europe are docked in ports in Belgium and the Netherlands (CBI, 2014a). These countries re-export about 65% of the pineapples imported into the countries, and approximately 20-25% is sold internally (CBI, 2014a).

As noted in the section above on governance, the topical issue in the marketing and distribution of fresh fruits and vegetables, including pineapples, is food safety. Thus, retailers and importers only contract with producers who can meet the stringent quality requirements set out by national and/regional regulations and retailers. As competitive pressures, have increased in retail markets, retailers have been bypassing importers to contract directly with producers (CBI, 2012; 2014a).

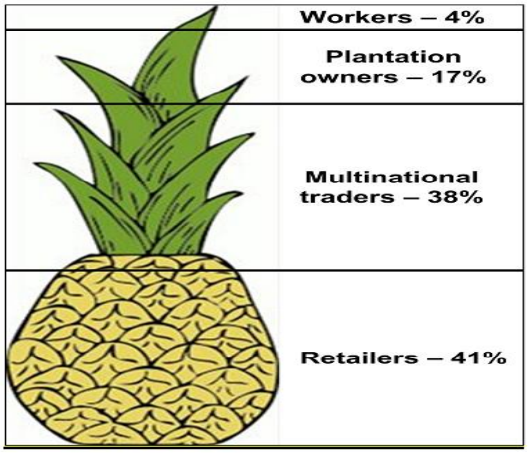
Recall from section 4.3.1 that there has been a shift in the role of retailers as buyers to importers. Though, ultimately, buying decisions lie with the retailer, importers have become category managers performing the buying function. In this regard, a buyer is no more 'a specific sector expert, experienced in procurement and tolerant of the sector-supply characteristics' (World Bank, 2011a: 173), but rather a category manager whereby 'each category is managed as a business unit, with its own set of financial targets and marketing strategies' (World Bank, 2011a:173). A category of fresh fruits e.g. Tropical Fruits may consist of pineapples, mangoes, kiwis, pomegranates, dates, avocados, among others. The aim of the category management is to maximise the turnover of the entire group of categories and not just the individual products (World Bank, 2011a; IGD website).[78] The market power of retailers (supermarkets) enables them to increase competition among suppliers. Supermarkets have preferred suppliers (importers), with whom they engage in long-term contracts. Within these contracts, exact volumes and prices are agreed upon a week or two before shipment (CBI, 2009). Some supermarkets require importers to send in price quotes in advance every week or two. Through this practice, supermarkets can force prices downwards by playing suppliers against each other (CBI, 2009). Importers also then transfer the price pressure on to exporters and producers. The example of Ghanaian exporters is indicated in Chapter 7.

The power of retailers allows them to take the largest share of the value of pineapples

[78] The Institute of Grocery Distribution (IGD) defines category management as 'the strategic management of product groups through trade partnerships, which aims to maximize sales and profits by satisfying consumer and shopper needs' (Source: IGD, Category management glossary, http://www.igd.com/Research/Training/Accelerate-your-personal-development/3553/Category-management-glossary/)

produced and exported. In a study in 2010 by Consumers International (a worldwide federation of consumer groups) it was shown that for a pineapple produced in and exported from Costa Rica, a typical European retailer captures the largest value, 41%, compared with 4% (in the form of wages) for workers on pineapple farms (Figure 4.19).

Figure 4.19: Value capture by different participants in the international pineapple market



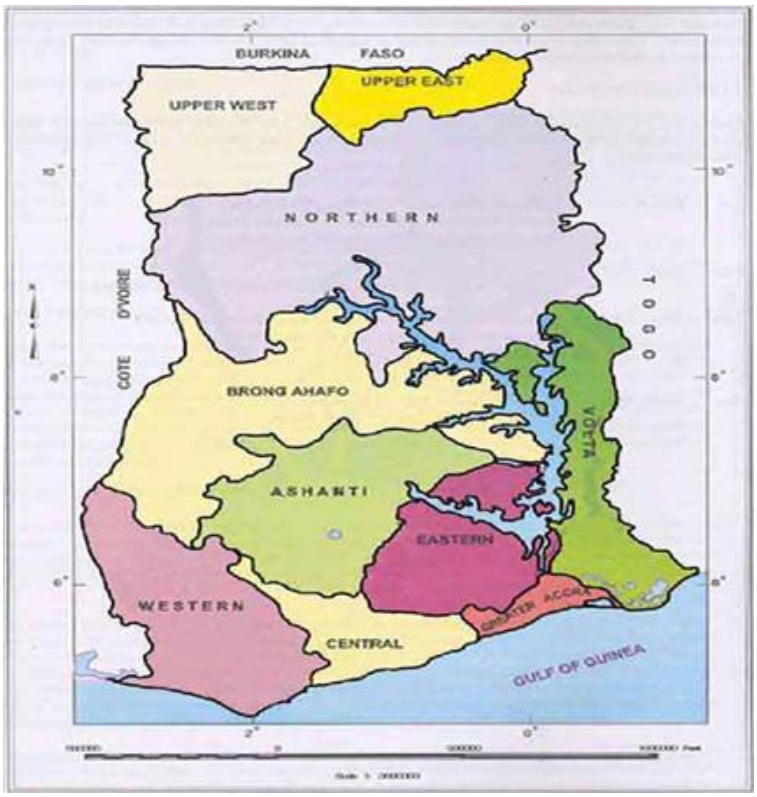
Source: Consumers International (2010)

4.4 Background to Ghana's Pineapple Export Sector

'There is considerable official and popular excitement about pineapples in Ghana these days…' (Daddieh, 1998:101)

Cultivation or production of pineapples takes place in the southern part of the country, mainly in the Eastern and Central regions, and to a limited extent in the Volta region (Figure 4.20). Pineapple production in Ghana began in the 1930s in the village of Samsam (Ampadu-Agyei, 1994; Abbey, 2005; Suzuki, 2014). However, it was for local consumption and not exports as the variety did not have the quality (particularly, colour) preferred by importers (Whitfield, 2010b: 15). During World War II pineapple cultivation was revived, but it declined after the servicemen left. In the late 19th century German missionaries introduced the Smooth Cayenne variety of pineapple to farmers in Aburi in the Eastern region, but the booming cocoa industry disrupted production until the mid-1980s (Whitfield, 2010b:15).

Figure 4.20: Administrative map of Ghana



Source: GSS (2002).

The beginnings of a booming pineapple export sector in Ghana were borne out of the ERP/SAP reforms implemented by the Rawlings-led government in the mid-1980s. The main variety of pineapple traded on the international market from the 1980s to the early 2000s was the Smooth Cayenne variety. This variety was well known to Ghanaian farmers, as they had been cultivating it for a long period of time. They were therefore well versed in its agronomic requirements. Also, it required relatively minimal fertiliser application and had a low cost of post-harvest activities. In fact, Whitfield (2010b:31) claims that the Smooth Cayenne variety produced good fruits even when good agronomic practices were not followed.

Initially, retailers marketed pineapple in the EU market as an exotic crop (NRI, 1988; Fold and Gough, 2008); thus, imports (and thereby exports) of pineapples increased exponentially (Figure 4.4). In Ghana, export volumes had generally been modest until they exceeded 10,000 tonnes in 1991 (Figure 6.1). From 1985 to 1994, pineapple export volumes grew at an average annual rate of 44%. By and large, fluctuations in demand occurred during the summer period when other fruits were available; but demand was high during festive periods, such as Christmas. Ghanaian exporters accessed the low price-low

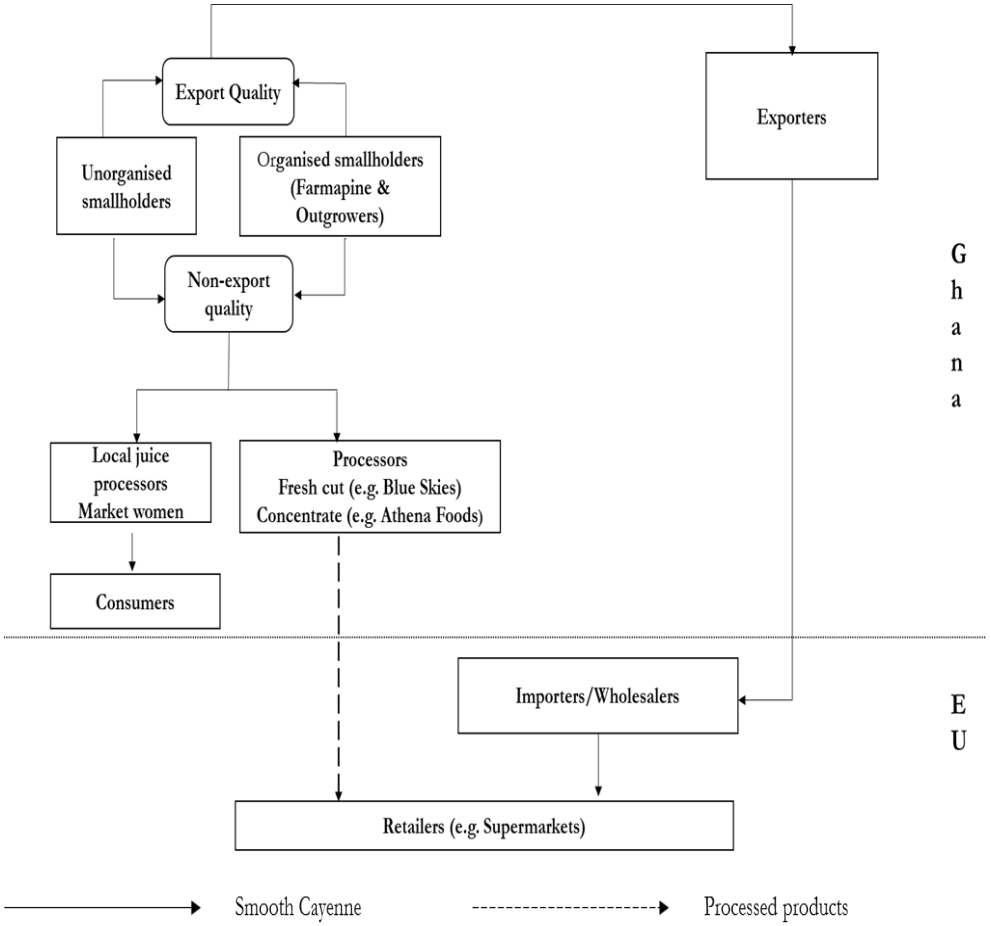
quality niche market in the EU (Danielou and Ravry, 2005): so even though it was a significant exporter to the EU it did not threaten the competitive position of its rivals, Costa Rica and Cote d'Ivoire (Jaeger, 2008).

Pineapple exports form an important part of NTAEs from Ghana. Although horticulture exports are less than 1% of the total export receipts of Ghana, they are important in terms of the ability to create employment and lower the incidence of poverty in the country (MoFA, 2007; NDPC, 2014).

4.5 The structure of the Ghanaian chain (mid-1980s -2004)

In this section, I will outline the structure of the Ghanaian pineapple export value chain. A more comprehensive analysis of the chain during this period is carried out in Chapter 6.

Figure 4.21: Ghanaian pineapple export value chain (mid-1980s – 2004)



Note: Processors also process other fruits e.g. mango and passion fruit

Source: Author, based on various sources

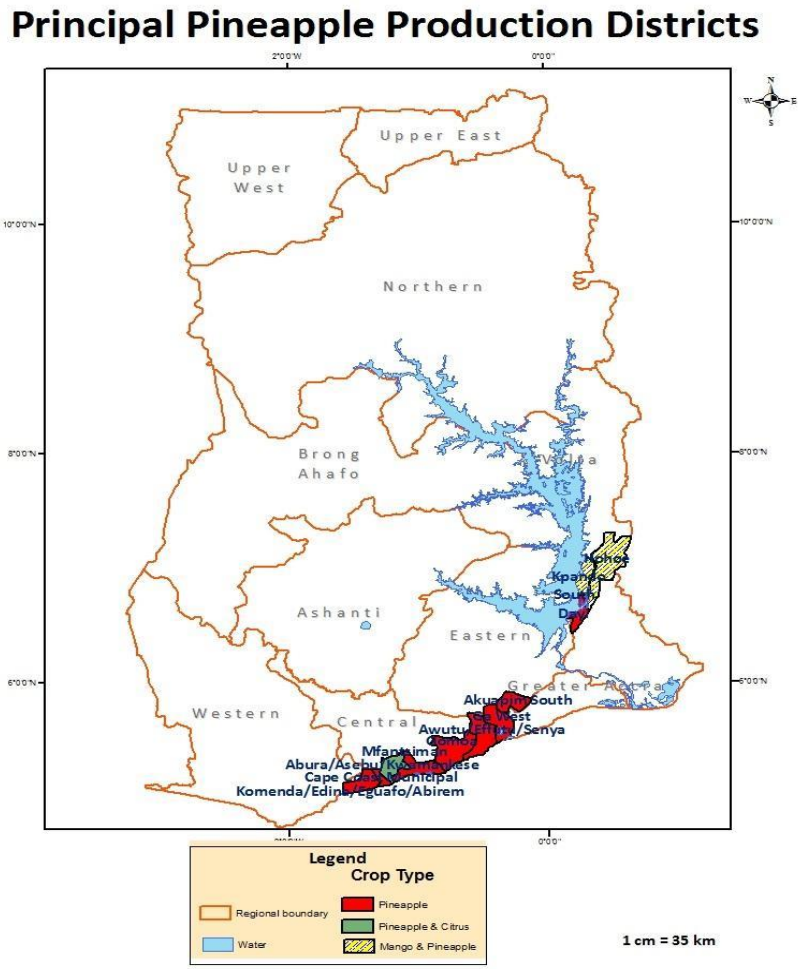
Input supply: Planting materials such as suckers were not difficult to obtain. Suckers were available on the farms of smallholders or small-scale farmers and also available to buy from nearby farms throughout the year (Danielou and Ravry, 2005). There was also no shortage of land for pineapple cultivation in the production areas (Takane, 2004), although acquiring land for large-scale farming could be time consuming and complex because of the land tenure system. Pineapples generally respond well to applications of fertiliser, especially nitrogen and potassium, which directly impact the fruit size and quality (Paull and Duarte, 2011; USAID, 2011). Although the quantity of nitrogen required is between 225 and 350 kg/ha (Paull and Duarte, 2011:350) amounts for the other fertilisers are best evaluated using soil analysis (Malezieux and Bartholomew, 2003 in Paull and Duarte, 2011). In the first few months of cultivation (2-4 months), fertiliser requirements are low. After the fifth month, the requirements increase. For ratoon crops (subsequent fruiting from the same mother plant) more fertiliser is needed since the existing nutrients in the soil have been removed by the mother plant (Paull and Duarte, 2011:350).[79] Fertilisers were easily available in the country but what was likely a problem was affordability. The fertiliser market had been liberalised as part of the SAP reforms, but farmers' credit constraints meant that most could not afford the input.

Land and labour were also relatively available. Land had to be accessed through the local land tenure system (Takane, 2004; Fold and Gough, 2008; Whitfield 2010b) which could sometimes be complex and frustrating. Labour was also said to be relatively available as the boom in exports led to the return of youths (Yeboah, 2005).

Cultivation (Production): The principal area for cultivation of pineapple for export was the Akwapim South District in the Eastern Region (Figure 4.22). With no accurate data on the number of participating small scale producers due to the large number who entered the market as and when they deemed it profitable, the NRI (2010; Section B, p.20) estimated that the sector consisted of as much as 10,000 small scale producers cultivating 0.2ha to 10 ha of land, 40 medium scale producers cultivating between 20 and 150 ha and 12 large producers cultivating between 300 and 700 ha of land.

[79] Costa Rica harvests a ratoon crop but Ghana does not as the suckers borne by the mother plant need to be used as planting materials for the next season.

Figure 4.22: Principal Pineapple Production Districts in Ghana



Source: Industry expert 2 (Fieldwork interview, 2013)

Areas of pineapple cultivation are within a 60-km radius of Accra, the capital city, and are less than 2 hours away from the sea and the airport in Accra by road. Production is labour-intensive, and harvesting can be done throughout the year, with a peak period in March to July in Ghana. It matures between 12 and 18 months after planting and is very sensitive to very cold and high temperatures. Producing areas in Ghana are characterised by high daily temperatures, an average of 25° - 28° Celsius, and high humidity (Table 4.8). These conditions reduce the ability to produce 'quality' pineapples for the international market without extensive cooling facilities (Dixie and Sergeant, 1998).

Table 4.8: Climatic conditions in producing areas

Agro-ecological zone	Area (km^2)	Mean Annual rainfall (mm)	Range (mm)	Major rainy season	Minor rainy season
Rain Forest	9,500	2,200	800-2,800	March-July	Sept.-Nov.
Deciduous Forest	66,000	1,500	1,200-1,600	March-July	Sept.-Nov.
Transitional Zone	8,400	1,300	1,100-1,400	March-July	Sept.-Oct.
Coastal Savannah	4,500	800	600-1,200	March-July	Sept.-Oct.
Guinea Savannah	147, 900	1,000	800-1,200	May-Sept.	
Sudan Savannah	2,200	1,000		May-Sept.	

Source: FAO (2005a:3)

Packing and storage: In the export of fruits and vegetables, 'packaging is not only a question of containment but also of protection and market presentation' (Voisard and Jaeger, 2003: 38). Also, CBI (2016) notes that 'the condition in which your shipment arrives at the customers' premises is just as critical in the order procedure as any other activity undertaken to satisfy them.'[80] Packing and storage equipment used by Ghanaian farmers and exporters were rudimentary. Fruits were packed out in the open and transported to the exit ports without cooling. Consequently, Ghanaian pineapple fruits were of low quality.

Exports: A relatively good number of local exporters participated in the sector at any point in time during the period. However, these exporters had low volume capacities, thus no economies of scale. Some exporters had their own farms and could be termed as producer-exporters (e.g. Bomarts Farms Ltd., John Lawrence Farms and Jei River Ltd., Koranco Farms), while others relied exclusively on smallholders (e.g. Prudent Farms). There was no MNC participation in the chain until 2004. Due to political instability in Cote d'Ivoire, Compagnie Fruitière relocated its production to Ghana and registered a company under the name Golden Exotics Limited (GEL).

[80] All fruits in a carton should have the same size, shape and colour.

Processing: As output of pineapple increased, so did the volume available for the domestic market; thus, in the 1990s and early 2000s, a number of local fruit processing companies sprang up to process fruits which were deemed not exportable. For exports, Blue Skies Ghana Ltd (owned by a British national) exported fresh-cut pineapple while Athena Foods exported pineapple concentrate.

Marketing and distribution: There were no Ghanaian firms involved in the marketing and distribution of fruits on the EU market. Ghanaian exporters shipped fruits to importers who handled marketing and distribution to supermarkets and wholesalers. Whitfield (2010b:18) notes that early on Ghanaian exporters accessed EU buyers through friends and family. Another channel for making contact was through participation in international fruit fairs.

4.6 Concluding Remarks

This chapter has looked at the evolution of the global pineapple value chain over the last 25 years. The changes in trade patterns in the global pineapple value chain have mainly been a result of competitive strategies pursued by Del Monte and global buyers. These changes have created both opportunities and challenges for all other actors in the chain. Participation in the fruit and vegetable value chain can be beneficial, but the stringent standards requirements may be a barrier to participation and possibly result in the marginalisation of small producers and exporters.

Unfortunately, in the restructuring of the global chain, both Cote d'Ivoire and Ghana lost considerable market share to Costa Rica. Although both countries significantly participated in the global chain in the 1980s and 1990s, their inability to innovate and quickly adjust to changes on the international scene thereafter led to their decline. The organisation (structure) of production and exchange in the Ghanaian chain is the topic of discussion in Chapter 6. This lays the foundation for our analysis in Chapter 7, of how the embedding of the chain supported or hindered its response to the MD2 innovation and the use of standards and, ultimately, governance of the chain.

Chapter 5 Research Methodology

5.1 Introduction

This chapter focuses on the procedure, methods and techniques used in carrying out the research. This study is a qualitative research. Qualitative research is applicable when 'an existing theory fails to adequately explain a phenomenon' (Merriam, 2009: 15). The methodology used in this qualitative study was a single case study. A case study answers the question of 'how' and 'why' as it seeks to explore, explain or describe a phenomenon (Berg, 2004). Both institutional economics and GVC research frequently use the case study methodology. It offers the opportunity for an in-depth understanding of a phenomenon, which can then be compared with other cases. It is also beneficial due to the ability to accommodate multiple sources of evidence. Since the study involved looking at a phenomenon which clearly divided the history of the sector into before and after periods, the period before was analysed mainly using secondary data in documents, reports and articles. The second period made use of secondary data and interviews with current participants in the sector. Hence, the processes discussed in this chapter primarily refer to these interviews. Before going into how the data was collected, the first section of the chapter shows the current structure of the Ghanaian value chain. The second section explains how the research topic was chosen and the research design at the pre-empirical stage. In the third section, the actual research design is described. It includes how the sample population was selected, the data collection process, data analysis and the validity and reliability of the research. The last section draws attention to the challenges faced in the study.

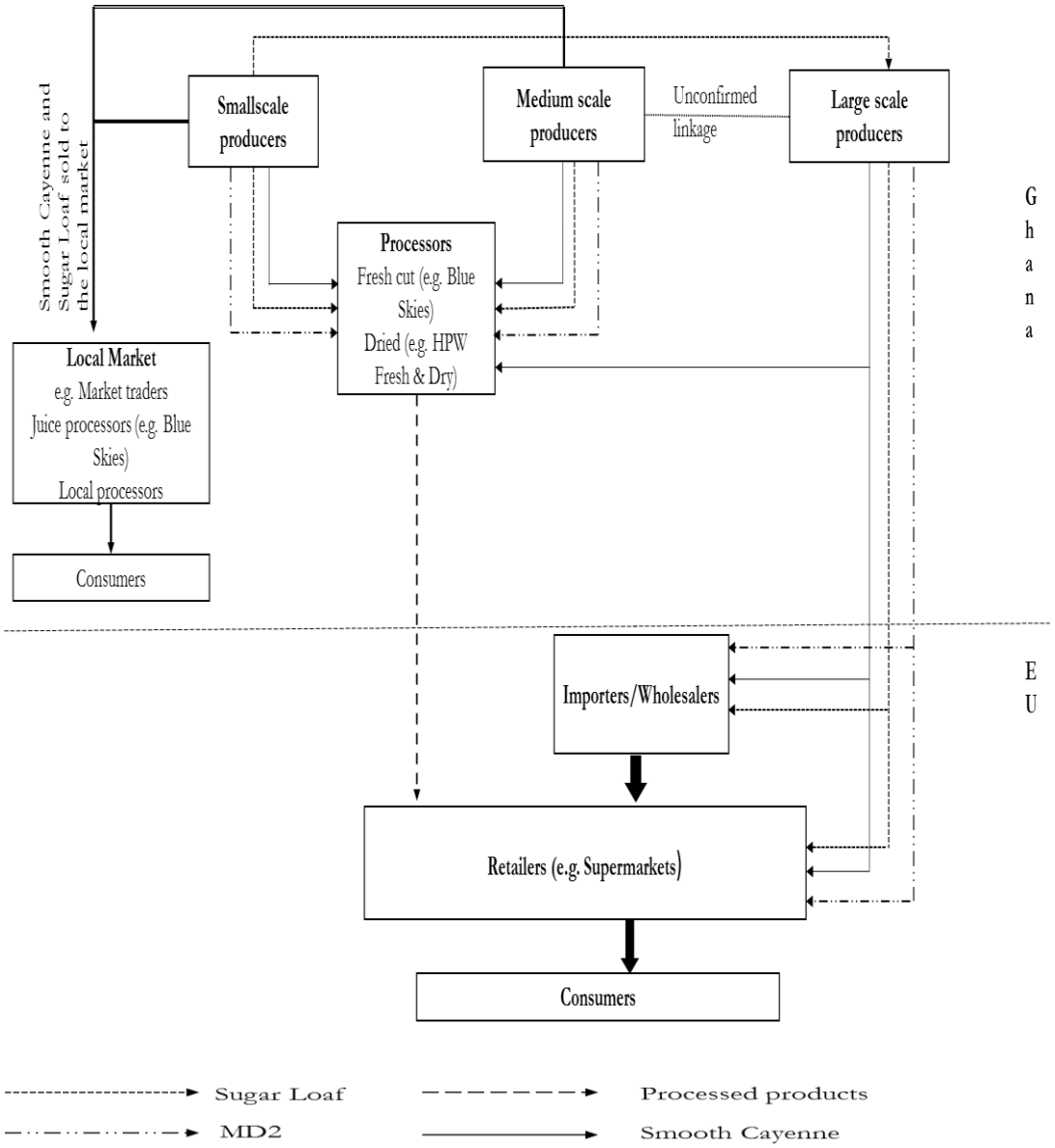
5.2 The Ghanaian pineapple value chain (2005-2013)

5.2.1 The pineapple value chain

Currently, three varieties of pineapple are cultivated in and exported by Ghana; MD2, Smooth Cayenne and Sugar Loaf. Small and medium-scale producers are largely excluded from MD2 whole fruit exports and are integrated into the chain by producing all three varieties for processors (Figure 5.1). Domestically, the preferred varieties are Smooth Cayenne and Sugar Loaf which can be purchased in supermarkets, local markets and by the roadside (Figure 5.2). Sugar Loaf has little international demand as it was only recently (in the last 5 to 6 years) introduced to the EU market (CBI, 2014a). It was formerly aesthetically unappealing to EU consumers because of its dark green colour even when ripe

and short shelf life (Sefa-Dedeh, 2005). The prospects for integrating smallholders back into the chain has improved since 2009 as Smooth Cayenne demand on the international market has begun to rise (Whitfield, 2012; ACDI/VOCA, 2015) although the demand is comparatively much lower than it used to be. Currently it is only in the Sugar Loaf strand that a small number of smallholders are linked to exporters. Any fruit not deemed exportable is sold on the local market to local processors (e.g. juice firms) or to traders.

Figure 5.1: The Ghanaian pineapple export value chain (2005-2013)



Source: Author, based on various sources and Fieldwork Interviews (2013)

Figure 5.2: Sugar Loaf fruits on sale in a supermarket in Ghana

Source: Author

Input supply: Suckers for cultivation are usually available from the farms of producers. There is also a tissue culture lab operated by Bomarts Farms Limited (currently the second largest exporter) for the propagation of suckers. Fertilisers and agro-chemicals are freely available. To assist producers with the high costs of pineapple production, all producers currently access the government's fertiliser subsidy programme.

Cultivation: The principal areas for cultivation of pineapples for export are the Akwapim South District in the Eastern Region and the Gomoa, Ekumfi and Mfantseman districts in the Central Region (see Figure 4.22). Production is labour-intensive with activities such as weeding done by hand. Sugar Loaf cultivation is mainly organic; hence many smallholders rely on manure instead of fertiliser. It is the only variety produced by farmers in the Central Region while farmers in other areas many grow all three varieties. Smallholders are excluded from the whole fruit (fresh) pineapple stand of the chain and are only included in the Sugar Loaf strand. Most small and medium-scale producers are integrated into the chain as producers for processors. Currently, pineapple production is comparatively more costly than before but more rewarding due to guaranteed prices.

Packing and Storage: Unlike the previous period where infrastructure was lacking, exporters have now invested in cold chain facilities including packhouses where the sorting, grading and packaging of fruits take place and reefers (refrigerated trucks) for the transportation of pineapples to the air and sea ports. MD2 fruits are transported by sea while Smooth Cayenne and Sugar Loaf is by air. After sorting and grading, the products with the medium to highest quality are exported while those of relatively lower quality are

sold to processors (fresh cut, juice) operating in the sector. There are rules related to packaging and labelling that must be adhered to by exporters. These rules are both EU specific and retailer specific.

Processing: It was mentioned in Section 4.5 that several processing firms sprang up to take advantage of the large amount of fruits not exported. However, with the decline in exports and reduction in production of pineapples, many of these companies did not survive.

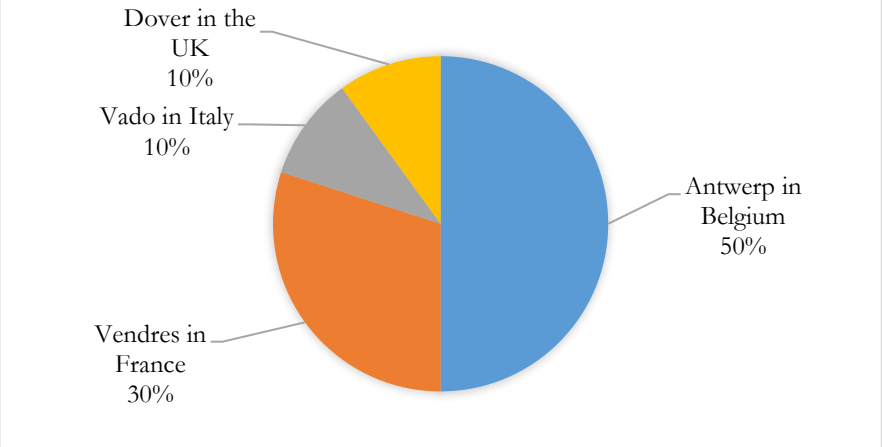
Currently, two large-scale processors who export their produce operate in the sector; Blue Skies Ghana Ltd. and HPW Fresh and Dry. Processors require MD2, Smooth Cayenne and Sugar Loaf. Blue Skies produces fresh-cut fruit salad for a number of retailers in Europe including Sainsbury and Waitrose in the UK, Albert Heijm in the Netherlands and Czon in Switzerland. It also produces fruit juice which was formerly exported but is now 100% sold on the domestic market because of increased local demand and a decline in European demand in 2009 due to the financial crisis (Ross, 2009; Fieldwork Interviews, 2013). These processors contract with small and medium-scale producers, and according to the NRI (2010: Section B, p.7), opportunities exist with the country's capacity to process 40,000 tonnes of pineapples and 30,000 tonnes of citrus annually.

Marketing and distribution: The EU market continues to be the main destination of pineapple exported from Ghana. Although on the international pineapple market there's been an increasing trend, whereby super and hyper markets bypass importers and wholesalers, Ghanaian whole fruit exporters generally still access the EU market through importers (Fieldwork Interviews, 2013). Processors on the other hand (e.g. fresh cut) contract directly with supermarkets.

HPW AG, a Swiss company, is the largest importer of Ghana's pineapple to the EU. HPW AG markets the fruits of about five companies, including BFL, Jei River Ltd. and Georgefield farms, predominantly to the UK. 50% of Ghana's fruits to the EU market enter through the port of Antwerp in Belgium and 30% through port Vendres in France (Gatune et al., 2013:20; Figure 5.3). In southern Europe, Ghanaian pineapple fruits are usually sold under the brand name of Compagnie Fruitere, because the sea carrier AEL no longer makes a trip to Northern Europe (World Bank, 2011a:13). Another exporting firm, Milani Ghana Ltd., markets its fruits through the Milani Fairtrade GmbH, based in Switzerland (Fieldwork Interviews, 2013). Access to other buyers is commonly through

participation in international fruit trade fairs, such as the Fruit Logistica held annually in Germany. Currently, Ghanaian whole fruit exporters have made inroads into other markets such as Turkey and the UAE. In 2013, Turkey and the UAE had a 4% and 3% share of Ghana's pineapple exports, respectively (Author's calculations based on Faostat 2016 data).

Figure 5.3: Port Destination of Ghana's pineapple exports to the EU



Source: Gatune et al (2013:19)

5.2.2 Profiles of Some Companies

Below are profiles of some exporting firms in the chain and their share of exports in 2009 and 2013 (Table 5.1). All exporting companies are GLOBALG.A.P. and Fairtrade certified in addition to fulfilling the various buyer-specific certifications required. Some are also organic certified. All packhouses are HACCP and ISO 9000 compliant.

a) Golden Exotics Company Limited (GEL)

GEL was established in Ghana in 2003 by Compagnie Fruitière (of which Dole owns 40%). In 2007, GEL accounted for 40% of the export market for pineapples and about 88% for the export market of banana, making it the largest exporter.[81] As at 2013, it accounted for 25% of pineapple exports, with the fruits marketed under the brand name SCB Anadou. It has a pineapple plantation of 6,000 hectares (Gatune et al., 2013) and harvests about 10,000 tonnes of fruit per year.[82] The company employs over 2,400 people.

b) Bomarts Farms Ltd.

[81] Jaeger, 2008
[82] Compagnie Fruitière website, http://www.fruitiere.fr/fr/index.php

It was established in 1985 by a Ghanaian national but is now a private limited company, 85% Ghanaian-owned and 15% owned by a Swiss partner. It began exporting in 1998 and currently employs about 650 people (Gatune et al., 2013). It was the first company to introduce the MD-2 variety into the country (Jaeger, 2008:11). It is currently the second largest (15%) exporter of pineapples. It currently relies on production from its own 3,000-hectare plantation though it formerly contracted with outgrowers. It has also diversified into the processing of dehydrated fruits (e.g. mangoes).

c) Jei River Ltd

Established in the 1980s, it was the country's topmost exporter (18%) before the change in variety (NRI, 2010). Currently, it relies on its own production, employing about 450 workers and exports about 3,500 tonnes of pineapples.[83]

d) Milani Ghana Ltd.

It was established in 1993. It operates its own plantation of over 1500 hectares but also has an outgrower group (Fieldwork Interviews, 2013). Its fruits are marketed under the brand name Delighana. The processing arm of the company formerly produced fruit juice for the domestic market but it no longer operates.

e) Blue Skies Ghana Limited was established in 1998 to produce pre-packed fresh fruit for the European market. It was the first pineapple exporter in Ghana to be GLOBALG.A.P. certified in 2001. In 2007, it exported about 5,000 tonnes of cut pineapples (the equivalent of 15,000 tonnes of whole fruits) (World Bank, 2011a:33). It also exports coconut, mangoes and papaya. The company initially started operations in Ghana but now has operations in Brazil, Egypt and South Africa. As at 2010, it was contracting with 34 growers to complement its own supply World Bank, 2011a:104); however, it now totally relies on small and medium-scale producers for pineapples (Fieldwork Interviews, 2013).

f) HPW AG is a Swiss company which began operations in Ghana in 1997. It has expanded to Egypt and South Africa. HPW AG acts as an importer for some of the exporting firms.

[83] Jeiriverfarms.com/about-us

g) Athena Foods: It was established in 1990, and produces fruit juice and concentrate for export to Europe and other regional markets (e.g. Nigeria).

Table 5.1: Share of exporter in total pineapple exports, 2009 and 2013

Name of Exporter	Volume exported in 2009 (tonnes)	Share of exports in 2009	Share of exports in 2013
GEL	9,172	29.1%	26%
BFL	4,607	14.6%	15%
Milani Ltd	4,100	13%	14%
Gold Coast Fruits	1,880	6.0%	8%
Georgefields Farms	2,218	7.0%	5%
Prudent exports	2,136	6.8%	6%
Pioneer Quality Farms	300	1%	-
Jei River Limited	1,760	5.6%	12%
Koranco Farms	1,944	6.2%	7%
Bio Exotica Co. Ltd	643	2%	n.a.
Chartered Impex	274	0.9%	n. a
Unifruits Ltd	188	0.6%	n. a
Mashaco Farms	118	0.4%	n. a
Volta River Estates Ltd	60	0.2%	n. a
Greenspan Farms	84	0.3%	n. a
Others	2,083	6.6%	

Note: n.a. refers to share not available
Source: MOAP (2010) and Gatune et. al (2013)

5.3 Research Process and design

5.3.1 Research Process

Globalisation produces both winners and losers. The idea for this study started with an interest in exploring how globalisation impacts labour in developing countries. Specifically, how it is affecting informal work in Ghana, where it is estimated that up to 80% of employment is in the informal sector (Osei-Boateng and Ampratwum, 2011). However, limitations, including the likely challenge of accessing a representative sample, led to a streamlining of the potential research topic to the impact of globalisation on structural transformation in developing countries. Readings on the theme of globalisation and its possible effects on labour and the transformation of the economy (e.g. Nissanke, 2009;

Nissanke and Thorbecke, 2006; McMillian and Rodrik, 2011) led me to the question of the impact of globalisation on the pineapple sector in Ghana. At a workshop in 2009, I had learnt about the decline of Ghana's pineapple sector as a result of changes in the preferred variety and standards. The reason given for this decline was the inability of exporters to acquire technological capabilities. As the sector was situated in a GVC, where the ability to upgrade is primarily due to interactions with buyers, I became interested in the relationship between the value chain and the territorial context in which exporters operated.

At the beginning of my research on the role of the institutional dimension in GVCs, I discovered not much had been written about it in the GCC/GVC context, apart from a few, such as Gellert, 2003 and Selwyn, 2008. On the other hand, economic geographers in the GPN literature were very interested in the subject (e.g. Neilson and Pritchard, 2009). These studies, together with the institutional economics literature, served as a guide for the identification of potential research questions, the research method, the relevant factors in the evolution of the national value chain and their interrelation with each other.

5.3.2 Research design

The design of a research is 'the plan for how the study will be conducted' (Berg, 2004:31) and must be guided by the issue under investigation. Based on the researcher's understanding of the research topic and literature on institutional change, it was realised that the complex and context- dependent nature of institutional change, meant that a qualitative research approach would be best suited to the research, as the case study approach allows the analysis of 'a phenomenon in a single social setting' (Miles and Huberman, 1994:27). A case study involves 'systematically gathering enough information about a particular person, social setting, event, or group to permit the researcher to effectively understand how the subject operates or functions' (Berg, 2004:251).

An explanatory single case study was applicable to this research, because it represented a longitudinal case i.e. 'studying the same single case at two or more different points in time' (Yin, 2009:49). The study sought to explain the role of local conditions in the governance of the Ghanaian value chain, which was marked by significant changes since 2005.

Under the broad heading of qualitative research are some methods to elicit answers to research questions. These include interviews, case studies, focus groups and ethnography (Punch, 1998; Flick, 2002; Berg, 2004; Silverman, 2010). The advantage of a case study is

that it can easily be used in conjunction with other methods, including interviews, documents and participant observations (Berg, 2004; Yin, 2009). This advantage also makes it easier for 'triangulation' since it can accommodate multiple sources of evidence by corroborating and augmenting the evidence collected (Yin, 2009). Nonetheless, the disadvantage of a case study is that it may not allow for generalisation (Yin, 2009; Merriam, 2009).[84]

The study was broken down into two parts. The first part (the mid-1980s to 2004) involved a historical analysis and relied mainly on document analysis. The second part (2005 – 2013) included interviewing current participants in the sector, and the process is described in the sections below.

5.4 Actual Research Design

5.4.1 Sampling strategy

Sampling can take the form of a probability or non-probability. To choose the sample of respondents, a non-probability sampling method known as purposive sampling was used. From Chapter 4, we note that the number of actors in the Ghanaian pineapple export sector has significantly declined. Hence the sample available to the researcher was very limited. Purposive sampling assumes that 'the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned' (Merriam, 2009:77).

5.4.2 The sample of producers

Based on literature in the pre-fieldwork stage, the Akwapim South District in the Eastern region was identified as an area to find respondents (Figure 5.4).[85] The district lies in the deciduous agro-ecological zone (Figure 5.5), characterised by an average temperature of 24°Celsius (GSS, 2014b:1) and climatic conditions described in Table 4.8. The district is well known for Smooth Cayenne production and, recently, MD2. It is a peri-urban area, about 20km from the country's capital, Accra (GSS, 2014b:1) and less than 90 minutes by road from both the seaport in Tema and the Kotoka International Airport in Accra. The recently refurbished Nsawam-Accra road has also made the area much more easily accessible. A processor and a number of pineapple exporting farms are located close by as

[84] Denzin (1993) in Punch (1998:154) argues that generalisation should not be the objective of all research since some cases may be unique.

[85] Alternative spelling of 'Akwapim' is 'Akuapem' or 'Akuapim.'

well as one of the country's oldest canneries, the Nsawam Cannery.

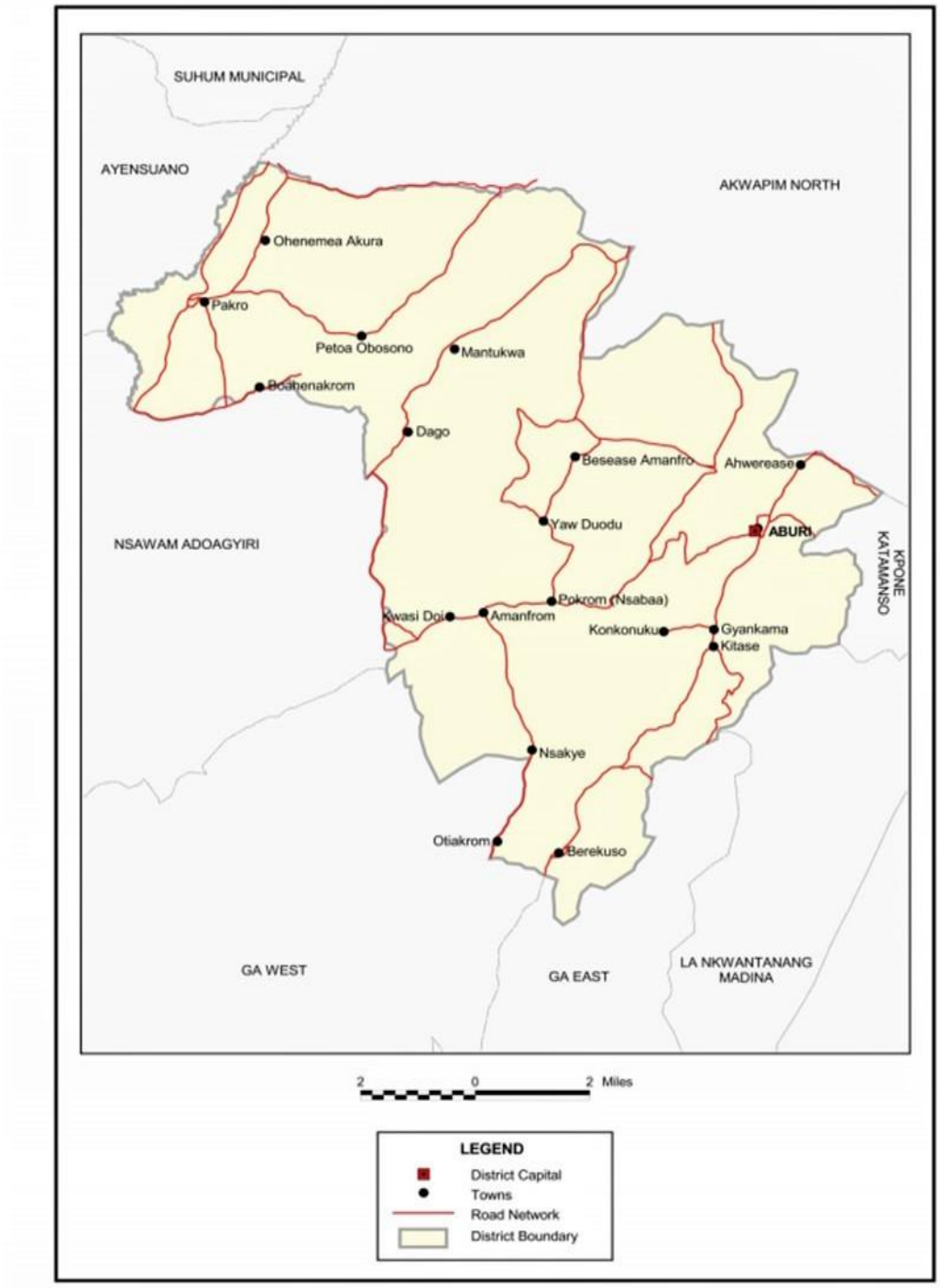
Samples in case studies '…can evolve once fieldwork begins' (Miles and Huberman, 1994:27). When the researcher embarked on fieldwork, she discovered the number of small and medium-scale producers participating in the pineapple export sector in the district had significantly declined. Second, the researcher discovered that producers of the Sugar Loaf variety had been integrated into the export value chain. Thus, producers in the Ekumfi district in the Central Region (Figure 5.6) were added to the study's sample.[86] This district lies in the coastal savannah agro-ecological area (Figure 5.5) and is characterised by average temperatures between 24° and 34° Celsius (GSS, 2014c:1).

Unlike the Akwapim South District, the study areas in the Ekumfi District cannot be classified as peri-urban, although, they are located along the Trans-ECOWAS highway linking the Greater Accra Region to Takoradi in the Western Region.[87] A processor facilitated access to farmers in Fotobi, Pokrom, Obodan and Oboadaka (all in the Akwapim South District); while the development agency (GIZ) did so for farmers in Esuehyia, Ekumfi Asaman and Ekumfi Nanaben (in the Ekumfi District). Sugar Loaf pineapples cultivated by one of the cooperatives interviewed in the Ekumfi District is sold in Waitrose in the UK.

[86] The Ekumfi district was formerly part of the Mfantseman Municipality. It was carved out as a district in 2012 (GSS, 2014c:1). Another district well-known for sugarloaf production is the Komenda-Edina–Eguafo-Abirem District (KEEA), also in the Central Region.

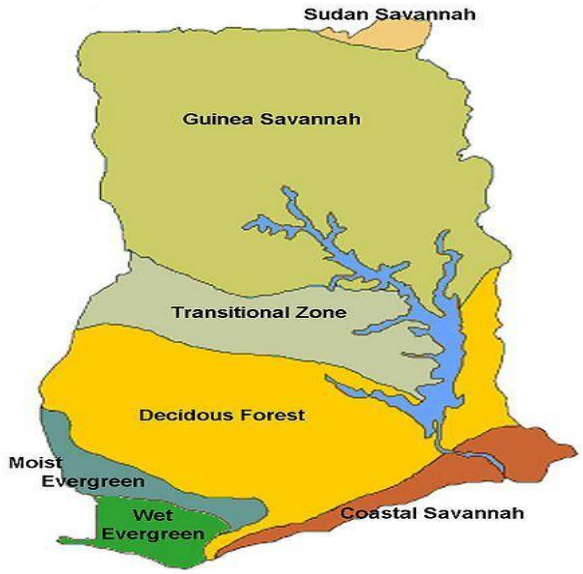
[87] The capital Accra, lies in the Greater Accra Region and there is a seaport in Takoradi.

Figure 5.4: Akwapim South District map



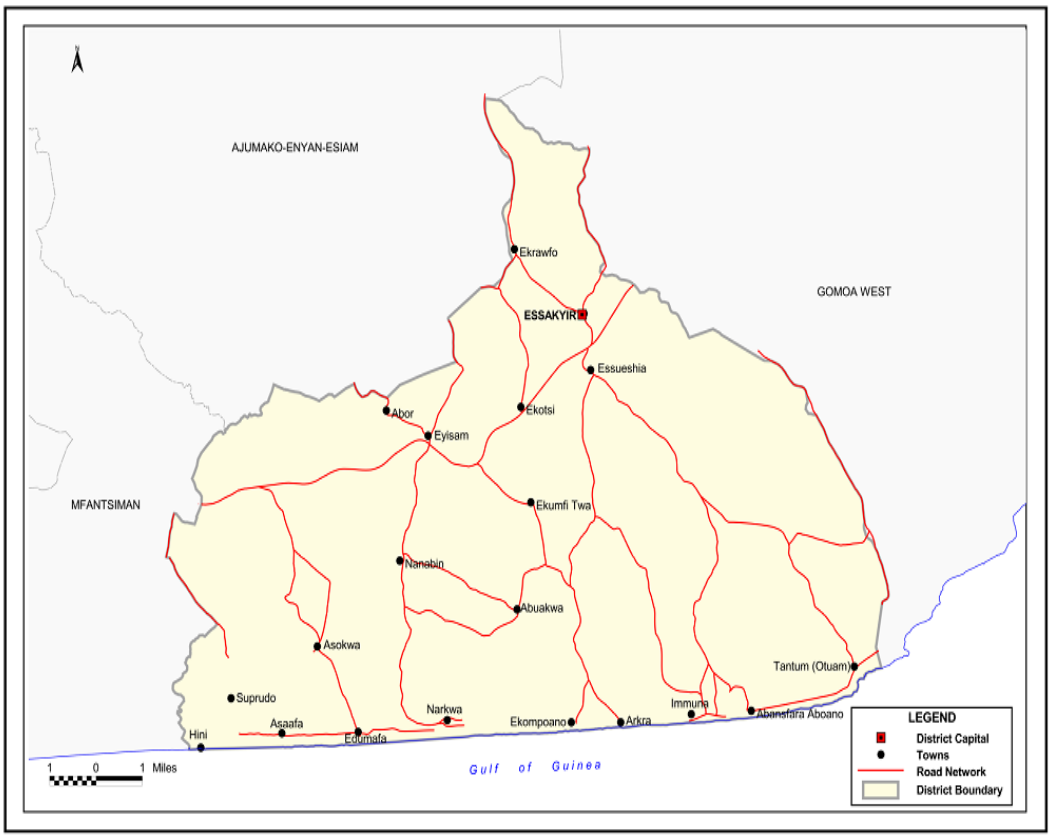
Source: GSS (2014b:2)

Figure 5.5: Agro-ecological zones of Ghana



Source: Germer (2005)[88]

Figure 5.6: Ekumfi District map



Source: GSS (2014c:2)

[88] Available at https://www.uni-hohenheim.de/respta/climate.php

5.4.3 The sample of exporters

The first point of call to find exporters to take part in the research was the website of the exporter association, SPEG. About 30 exporters were listed on the website. However, a research by Gatune et al. (2013) had identified that less than 15 exporters consistently exported throughout the year, and that the exports of eight firms made up 93% of the country's total pineapple exports in 2013. The researcher then made it a priority to interview these exporters.

Access to the exporters was relatively challenging for an independent researcher. Exporters seemed wary of researchers not aligned to known international organisations and/or research institutions. I had access to this group through a former chief executive officer (CEO) of a pineapple exporting firm, who currently is an agriculture consultant. Nine (9) exporters were contacted but only five agreed to take part in the survey (Table 5.2). It was estimated that the five exporters who took part in the study had a 70% share of the country's total pineapple exports in 2013.

Table 5.2: Ownership type, acreage and varieties grown by the sample of exporters

Exporter	Ownership type	Acreage (in hectares)	Varieties cultivated
A	Limited Liability	1,759	MD2, Smooth Cayenne and Sugar Loaf
B	Limited Liability	2,000	MD2 and Sugar Loaf
C	Limited Liability	1600	MD2, Smooth Cayenne and Sugar Loaf
D	Limited Liability	6,000	MD2
E	Limited Liability	3,237	MD2, Smooth Cayenne and Sugar Loaf

Source: Author, based on fieldwork interviews

5.4.4 The sample of processors

The term processor is used here to refer to a firm which exports one of the following; pre-packaged ready-to-eat cut fruits, packaged dehydrated fruits or pineapple concentrate. Two main large-scale processors and a small number of artisanal processors operate in the export sector. The large-scale processors were the object of this study, particularly as one large-scale processor controls over 90% of the processed fruit export market in Ghana. I

interviewed one large-scale processor as well as a domestic processor.[89]

5.4.5 The sample of importers

Exporters regularly avoided identifying their buyers whenever asked to do so during interviews. Through secondary data, some importers were identified as purchasing pineapple fruits from Ghana. Four (4) such importers were contacted through emails. However only one agreed to participate in the study.

5.4.6 Other stakeholders

Other stakeholders who took part in the study were a representative of an industry association, public officials, representatives of financial institutions, and industry experts. Interviews with industry representatives and industry experts were to obtain an overview and insight into both the past and current situation of the pineapple sector and also to seek information on possible respondents. For other stakeholders, the information gained from interviews with exporters, farmers, industry experts and industry representatives informed questions during interviews. Hence a questionnaire as such was not produced but rather the researcher had some specific questions which were the basis of the conversations.

All other stakeholders except for representatives of financial institutions, were interviewed face-to-face in their organisations, although the majority declined to have the interview recorded. A representative of a financial institution was interviewed by phone while the others were through email correspondence. In all cases, respondents were first made aware of the conditions of confidentially and anonymity underlying the study.

In total, 68 persons were included in the study. A complete list of respondents is found in Appendix 5.2.

5.5 Data Collection

5.5.1 Data collection methods

Interviews can be structured, semi-structured or unstructured. A structured interview consists of a set of pre-established questions with pre-established response categories; while in an unstructured interview, questions follow out of the conversation and there are no pre-established response categories (Punch, 1998:175-176). A semi-structured interview falls in between the two examples above. The study primarily conducted face-to-face

[89] Domestic processor refers to a processor who produces fruit juice for the domestic market.

interviews, using semi-structured questionnaires. Interviews with exporters, farmers, processors, public officials, industry experts, representatives of industry associations and financial organisations took place over a period of six months from May - November 2013.

Within exporting and processing firms, access to respondents was first through a phone call to either the managing director or CEO. I first identified myself as a student and gave a brief detail about the research and its objective. At this stage, the contact either tentatively agreed to participate in the study or declined participation. When tentative approval was given, an introduction letter which was specifically addressed to the firm and the research questionnaire were emailed to the contact (A copy of the general introduction letter is found in Appendix 5.1). After a series of email correspondence, a date was set for the interview with the designated respondent. In certain cases, it took as long as a month for the contact to approve participation. Respondents were two CEOs, two production managers, one general manager, an export manager, two agronomists and a quality control officer. Interviews lasting approximately one hour were conducted in the respondent's organisation.

The questionnaire for farmers was reviewed by an industry expert who suggested changes in the wording of certain questions and also additional questions. For example, a question had asked of land sizes in hectares, and I was advised to change it to acres since that is what farmers are used to. Also, a question on access to knowledge was updated to include certification and record keeping. During the data collection period, questions were reviewed to reflect the circumstances on the ground. This involved the removal of redundant questions and the rephrasing of others.

The majority of farmers in the Akwapim South district were interviewed on a one-on-one basis at their farms. I was introduced to the farmer by an agronomist of a processing firm. This was followed by a brief explanation of the study and a request to participate in the study. Although interviews took place in the presence of the agronomist from the processing firm, there was no issue with farmers not being able to talk freely. They interact on a daily basis with the agronomist and had built up a rapport. Focus group interview was used to gather data when a cooperative was interviewed in the district. The cooperative was formed in 1992, and none of the members interviewed owned the land they farmed on. Rather they had access through leaseholds ranging from a minimum of 3 years to a maximum of 30 years.

All responses from farmers in the Ekumfi district were elicited through semi-structured questionnaires in focus groups. Focus group interviews were used instead of one on one interviews due to time constraints. Farmers could only spare time for me on Fridays, since they did not go to farm on this day. Even on the designated day, the farmers could only spare time early in the morning (before 9 am), because several farmers in the area are Muslims who must visit the mosque: also, generally, social activities including family meetings, funeral meetings and visitations in the towns were scheduled on this day. All participants in the three focus groups consented to the recording of conversations. The advantage of focus group interviews is that it facilitates discussion among the participants (Flick, 2002; Berg, 2004) by allowing them to make clear 'their views, perceptions, motives and reasons' (Punch, 1998:177). However, it may also suffer from the 'group culture and dynamics' (Fontana and Frey, 1994 in Punch 1998:177), which may hinder the diversity, breadth and depth of responses.

Interviews with other stakeholders took place in 2013, aimed at confirming or refuting the evidence provided by earlier respondents and also seeking out new lines of enquiry and evidence. The information gathered in 2013 was reviewed and analysed resulting in the need to seek out important respondents, such as importers. An importer was finally interviewed in 2016 through a Skype video call.

The questionnaires used in the study is found in Appendix 5.4.

5.5.2 Language used

The languages used for the research were English and Twi. All the questionnaires used were written in English, but during interviews with some producers (especially small and medium-scale farmers) the questions were read out in the Twi language. Twi (or Ashanti Twi) is one of the three literacy dialects of the Akan language. The Akan people are found in southern Ghana and Côte d'Ivoire. Twi is the most popular language in Ghana, easily spoken and understood by a majority of the population. In the Akwapim South District, the indigenous language is Akwapim Twi (the second literacy dialect of the Akan language). This posed no problems with communications as both parties could communicate in Twi.

In the Ekumfi District, the indigenous language is Fante (the third literacy dialect of the Akan language). Although my ability to speak the Fante language was limited, my knowledge of Twi together with the respondents' ability to express themselves in a fair

amount of English and to leave out complex Fante words made communication easy.

5.5.3 Characteristics of the Sample

In the sample of exporting firms, the majority of respondents were aged between 36 and 45 years and all had tertiary levels of education. Apart from the agronomists who had between 1-5 years' experience in the sector, the CEOs, production and general managers, individually, had over 15 years' experience.

Out of the total sample of farmers interviewed (Table 5.3), 96% were male and 4% female. The farmers range in age from 23 to 74 years. The majority of farmers had low levels of education, with over half of the sample having only primary and junior secondary level of education (Table 5.4). Apart from 3 farmers who had other jobs as a civil servant, an auto spare parts businessman and a poultry keeper, all the others were full-time farmers. Smallholders generally cultivate other crops, such as maize and cassava for subsistence. However, 23% of the sample produce these crops for sale on the domestic market.

Table 5.3: Small and Medium-scale farmers interviewed in the study

Producer	**Number interviewed**
Smallholders cultivating Smooth Cayenne, MD2 and Sugar Loaf varieties	11
Smallholders cultivating Sugar Loaf variety only	31
Medium-scale producers cultivating Smooth Cayenne, MD2 and Sugar Loaf	6
Total	48

Source: Author, based on fieldwork interviews

Table 5.4: Educational level of farmers

	Akwapim South district	Ekumfi district	Proportion of Sample
Primary and junior secondary	1	27	58.3%
Secondary	14	4	37.5%
Tertiary (University level)	2	0	4%

Source: Author, based on fieldwork interviews

Two land tenure systems operate side-by-side in the country; customary and statutory.[90] Although the customary system operates in the study areas, land was accessed through two main arrangements (Table 5.5). In both districts, pineapple is grown as a monoculture. Smallholders cultivate a range of land sizes from a minimum of 1 - 2 acres to a maximum of 15-20 acres. None of the farmers owned the land they farmed. In the Ekumfi district, smallholders accessed land through the rental system which involved an agreement between the farmer and landowner(s) to use the land for a number of years. Farmers made yearly payment for the use of the land, spread over the agreed number of years. Although this could possibly lead to exorbitant yearly charges, due to the informality of the agreement, farmers did not indicate it as a problem hindering their access to land. The farmers could not give accurate data on rental costs; however, an industry expert indicated that rental costs for an acre of land, for approximately 10 years, is between GHC200 and GHC300 (i.e. between US$90 and US$136).[91] This equates to between 8% and 12% of the costs of producing an acre of pineapple (GHC2,500). However, as the amount is spread over a number of years, it is likely to be a very small percentage of the annual per acre cost of production.

In fact, most of the farmers had access to more land than they cultivated. For instance, a cooperative in the Ekumfi District cultivated only about 40% of the total land size available to members. In the Akwapim South District, the majority of both small and medium-scale producers had access through leaseholds. Medium-scale producers, for example, had leaseholds which ranged from a minimum of 25 years to a maximum of 35 years. Both small and medium-scale farmers were of the opinion that having control over the land over a relatively long period of time indicated the farmers' willingness to stay on in the sector.

Pineapple yield per hectare in 2010 in the Akwapim South district was 62 metric tonnes, down from 64 metric tonnes in 2009 (MoFA, 2016). Overall, potential pineapple yields in Ghana is given as 72 Mt/ha but the current yield is about 60 Mt/ha, far less than Costa Rica's 120mt/ha (MoFA, 2013a; Gatune et al., 2013).

[90] In the customary system, land is held by stools, families or chiefs and access is first by lineage.
[91] Exchange rate of GHC 2.2 to US$1 (BoG 2014).

Table 5.5: Means of access to land for cultivation

Type of Ownership	Number	Proportion of sample
Leasehold	14	29.1%
Rental	33	69%
Family Owned	1	2%

Source: Author, based on fieldwork interviews

5.5.4 Ethical Issues

Given the limited number of participants in the export value chain, it is easy to identify firms and farmers. To protect the confidentiality and anonymity of respondents, participants were asked to sign an informed consent form before the interviews began (see Appendix 5.3). The consent form indicated that the identity of respondents (names and/or organisation) would not be revealed in the research results, asked permission for the interview to be recorded and indicated that the interviewee could stop the interview at any point during the process. In the event where a respondent stopped the interview, his responses would not be included in the study's results. For respondents who could not fully comprehend the English language, I orally explained in the Twi language what was contained in the consent form and asked for permission to record. When respondents were in groups, a group member signed the form to indicate their understanding of the contents of the form and granting of permission for the interview. A copy of the signed consent form was then given to the respondents.

A recent common practice when doing research in Ghana is 'paying' respondents for the time spent answering research questions.[92] Thus, some farmers expected to be 'paid' for their time. In one instance, when I was bluntly asked what benefit their time spent with me was to them, I politely responded that they were contributing to my education. An answer which was well received. In another instance, the respondents asked for freshly baked bread, a request which I obliged.

5.6 Data Analysis

Qualitative data can be analysed in three interactive steps; data reduction, data display, drawing and verifying conclusions (Figure 5.7). Data reduction is the process of 'selecting, focusing, simplifying, abstracting and transforming the data that appear in written-up field

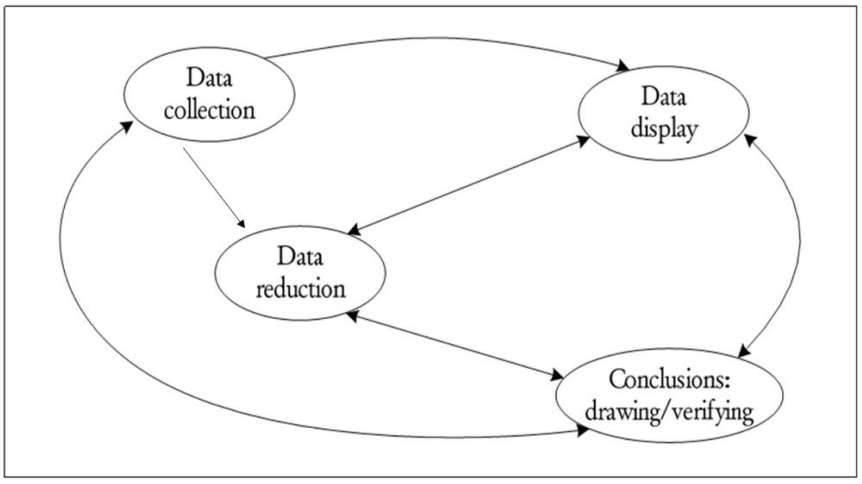
[92] This practice has been attributed to development agencies.

notes or transcriptions' (Miles and Huberman, 1994:10). This involved the researcher transcribing the interviews verbatim into the qualitative data analysis software known as NVivo (http://www.qsrinternational.com). The use of NVivo was primarily to make the data easily accessible to the researcher, preserve the quality of transcription and to organise the data. The transcription was detailed to include pauses, mispronounced words and incomplete sentences (Miles and Huberman, 1994).

Based on the literature, the study used pre-determined categories of the institutional environment and themes in GVCs to build the research questions asked in the interviews. The first stage of analysis thus involved comparing the responses of the transcribed questionnaires and noting common patterns under the categories and themes. Further investigation of the text data by repeatedly listening to recordings and/or going over field notes lead to further sub-categorisations where required and also to further questions concerning interactions and strategies of respondents. I then strived to address these additional questions or seek insights when interviewing other respondents.

The second stage of data display was less used in this study. It includes the use of graphs, charts and matrices to understand the data collected. The final stage, drawing and verifying conclusions involves making causal relationships between the categories. To identify causal relationships which existed within the Ghanaian pineapple chain, I did the following: (a) most of the questions were structured around relationships between and among actors in the chain (b) conclusions were crosschecked with industry experts and documents.

Figure 5.7: Components of data analysis



Source: Miles and Huberman (1994:12)

5.7 Reliability and Validity of the research

Validity is another word for truth' (Silverman, 2004:275). A critique levelled at qualitative research is that it gives too much leverage to the researcher's interpretations (Flick, 2002; Yin 2009). Some researchers do not think the issues of validity and reliability apply to qualitative research since they are attributes pertinent to the positivist approach in quantitative research (Silverman, 2004; Merriam, 2009). Nonetheless, they are attributes which a qualitative research must strive for in order to be relevant and acceptable.

According to Morse et al. (2002), reliability of research does not have to occur at the end of the research but rather it refers to the use of mechanisms during the research process which increases the rigor of the study, hence a number of strategies can be used to improve the validity and reliability of research (Silverman, 2004; Merriam, 2009). The validity and reliability of qualitative research are tested based on the following bases: internal and external validity and credibility (Merriam, 2009:213).

Internal validity 'deals with the question of how research findings match reality' (Merriam, 2009: 213). Internal validity can be increased through triangulation. Types of triangulation include investigator, method, data and theory triangulation (Silverman, 2004; Merriam 2009).[93] This study achieved internal validity by triangulating its findings with document analysis and interviews with other stakeholders in the sector such as public officials and an importer.

As case studies seek to interpret events and not to generalise them, their replication should not be the aim of research, since the social context is assumed 'to be in flux, multifaceted, and highly contextual…' (Merriam, 2009:222). However, research must be reliable. Reliability of research is related to the 'degree of consistency with which instances are assigned to the same category by different observers or by the same observer on different occasions' (Silverman, 2004:290). This thesis addressed the issue of reliability by asking questions relating to both the past and present experiences of the respondents. Furthermore, the use of the NVivo software allowed the researcher to categorise responses systematically and consistently under themes.

External validity or transferability relates to the ability to generalise a study (Miles and

[93] For example, investigator triangulation involves the use of a number of researchers collecting and analysing the data, and theory triangulation involves using different theories to test the same hypothesis (Silverman, 2004; Merriam, 2009).

Huberman, 1994; Merriam, 2009). Transferability is achievable by using 'rich thick description' (Merriam, 2009: 227). Lincoln and Guba (1985 in Merriam, 2009: 227) underscore the importance of: 'thick description of the sending context so that someone in a potentially receiving context may assess the similarity between them and … the study.' This thesis sought to achieve transferability through the detailed description of chain participants and the presentation of evidence in the form of quotes taken directly from the research participants and documents.

5.8 Challenges of the study

Exporters were notably secretive about some of their interactions and activities, particularly in response to questions about their buyers and past and current firm strategies. Thus, they were not always fully prepared to explain the reasons for some behaviours or, in some cases, either overlooked such questions or gave general answers. Also, the need to identify farmers through the processors and/or exporters they worked with meant that, without permission from the exporter, some potential respondents were inaccessible. Finally, the inability to record all interviews means that it is likely some information was lost in the note taking process.

5.9 Concluding remarks

This chapter has explained the research methodology used in this study. First, it gave the background to the researcher's interest in the research topic. Second, it elaborated on the research design, by explaining the rational for the sampling method and how the sample of farmers, exporters and other respondents was chosen. Third, it explained the data collection methods, the language used and some ethical issues of the research. Fourth, it introduced the data analysis methods used. Finally, it highlighted challenges of the study. The next chapter is the first analytical chapter of the thesis: it discusses the Ghanaian pineapple chain with regard to both the study's framework developed in Chapter 3 and the available documents and reports on the sector.

Chapter 6 The Smooth Cayenne Exchange Configuration

6.1 Introduction

Ghana's main horticultural export products are pineapple, banana, mango, yam and vegetables. Although horticulture exports were not a significant contributor to the foreign exchange earning of Ghana in comparison with traditional exports like gold and cocoa, their potential was on the rise, as significant growth occurred in the horticultural subsector during the 1990s and early 2000s. Within a 10-year period (1992-2001), growth in the subsector's contribution to the nation's foreign exchange earning was over 200% (AfDB, 2005).[94] NTAEs such as pineapple, yams and bananas significantly contributed to this growth: between 1994 and 1999 24% of the growth in horticulture export volume was attributed to them (World Bank, 2001a:11). In this same period, pineapple earnings contributed as much as 42% of the total NTAEs earnings (World Bank, 2001a:11). In 2004, pineapple exports were valued at US$ 22million (MoFA, 2011:40). Through its impact on income generation and employment, the role of horticulture in the export diversification and poverty reduction goal of the country is also substantial (NRI, 2010; NDPC, 2014).

Smallholder farmers played a dominant role in pineapple production during the mid-1980s to 2004. Exporters, many of whom did not have their own farms, relied on these farmers for their supplies. An illustration of the chain from the mid-1980s to 2004 is given in Figure 4.21. The main pineapple importing countries of Ghana were EU countries; including Switzerland, Belgium, Germany, the UK and the Netherlands. Ghana increased its exports of pineapples throughout the 1990s and attained a 10% market share of EU pineapple imports in 2004; but its share of the market declined significantly from 2005. This was a result of a new pineapple innovation, MD2, and the application of product and process standards to pineapple production and export.

The main goal of this chapter is to set out the configuration in which production and exchange of pineapples took place in the Ghanaian setting. It details (a) the local rules (or circumstances) which shaped production and exchange and (b) the responses or actions of actors (e.g. smallholders, exporters and the government). This contribution forms the basis

[94] Horticultural exports earned the country US$6.77 million and US$ 26.85 million in 1992 and 2001, respectively, making up 40% of all earnings from NTAEs (AfDB, 2005: ix)

upon which the impact of changes in global governance on the chain will be discussed in the next chapter. I will, therefore, conduct a historical analysis spanning the period 1986 – 2004. A historical approach supports the specification of the causal mechanisms that led to the observed governance structure and laid the foundation for changes in the future. Also, the year 1995 in the review period marks a significant point of departure in the organisation and structure of the pineapple sector in Ghana. Prior to 1995, export of pineapple to the EU market was by air-freight on cargo planes and passenger airlines. From 1995, sea-freight became the main transportation channel, due to limited air-freight capacity and improvements in sea-freight technology.

The first section of the chapter discusses the characteristics of the item traded, actors and local conditions. In the second and third sections, I show how the interaction of the three exchange elements resulted in a market governance structure for the chain. The fourth section discusses the consequences of market governance for the chain, while the fifth section compares the chain with that of Costa Rica. The final section concludes the discussion.

6.2 The Smooth Cayenne configuration

In this section, I describe the characteristics of the product, actors and the prevailing local conditions of the pineapple value chain for the period 1986 – 2004. The discussion of characteristics of actors is limited to those directly involved in the exchange (i.e. exporters, smallholders and middlemen).

6.2.1 Characteristics of the item exchanged

Pineapple is a high-value agricultural commodity. Smooth Cayenne was highly perishable but highly demanded on both the international and local markets. In the global pineapple market, barriers to entry were generally low, because international trade regimes and regulations for the export of fresh fruits and vegetables had minimal product requirements. Retailers did not impose strict process requirements, e.g. worker rights and safety, on their suppliers. Quality of the fruit was restricted to two basic tests; Aesthetics and Brix level (Fieldwork Interview, 2013). The aesthetic component was based on (a) Size (b) Colour and (c) Appearance (bruising). Lack of bruising was the minimum standard for export, and so long as a fruit met the requirements it was deemed exportable.

Domestically, Smooth Cayenne cultivation entailed low production costs, since suckers were freely available and the farm tools needed were rudimentary. Furthermore, Whitfield (2010b:31) suggests that Smooth Cayenne yielded good output even when the agricultural practices applied were not up to standard. Thus, it is possible that the variety was well suited to the soil in the producing areas. The aesthetic test for pineapple fruits led to a boom in the local fruit processing industry, as any fruit not deemed exportable was sold to local processors. Unfortunately, pineapples exported from Ghana were said to be of low quality due to inconsistencies in colour, size, and freshness of the fruit at delivery.

6.2.2 Characteristics of Actors

6.2.2.1 Characteristics of Smallholders

The product characteristics identified in Section 6.2.2 meant that a large number of farmers (producers) participated in the sector in any given year. There is no accurate data on the number of smallholders who participated in the value chain. Wilson (2007:42) estimates that about 600 smallholders participated in the value chain; but the NRI (2010: Section B, 20) estimated that in 2003-2004 the number of producers was about 10,000 smallholders (0.2-10ha), 40 medium-scale farms (20-150ha) and 12 large-scale farms (300-700ha).

The characteristics of smallholders discussed here relate to their access to factors of production; including land, labour, credit, organisation and attitude to risk. There is no consensus on whom a smallholder is, (Nagayets, 2005; Morton, 2007; Chamberlain, 2008): however, smallholders are defined in terms of certain characteristics, such as land size cultivated, vulnerability to risk, wealth, use of and access to resources. When a smallholder is defined in terms of land size, it is commonly quoted as 2 -10 hectares. Yeboah (2005:81) sees them as cultivating less than 50 acres of land; however, in fact, most smallholders in Ghana in the pineapple sector cultivate less than 20 acres of land (Chamberlain, 2008). Regardless of the small land sizes cultivated- an average of 1-10 acres (Trienekens, 2003 in Jensen, 2005:15) - production of pineapples for export was dominated by smallholders who supplied 40% to 60% of export volumes (Goldstein and Udry, 1999; Jensen, 2005; Whitfield, 2011).

Smallholders had low educational levels and their access to land was based on the land

tenure system described in Section 5.4.3 or through inheritance and as gifts (Ampadu-Agyei, 1994; Whitfield, 2010). Leasehold arrangements were popular because the traditional shareholding practice of 'abusa' could not be successfully applied to pineapple production in view of the length of time it takes to mature and the fact that it can be harvested at any time in the year.[95] Although smallholders had access to land, they did not have title to the land and hence could not use it in accessing credit from financial institutions.

Inputs needed for cultivation were suckers and agro-chemicals, such as fertiliser, pesticides, and herbicides. Although suckers and agro-chemicals were freely available, producers lacked knowledge, especially, on how to effectively and efficiently apply fertiliser in cultivation. Also, most smallholders relied on internal sources of credit, as both access to and affordability of external finance was challenging due to local economic and social conditions.

Overall, smallholders could be classified into two groups; organised and non-organised (Trienekens and Willems, 2007:48). Organised smallholders included outgrowers and the smallholder company known as Farmapine. It was founded in March 1999, as a limited liability company based on the Farmer Ownership Model (FOM), and began operations immediately (World Bank, 2001b; Jensen, 2005; Yeboah, 2005; World Bank, 2011a).[96] It was supported by the World Bank under the ADP with a loan of US$1.4million, repayable over seven to ten years at a 7% interest rate and an additional one year's working capital for the associated cooperatives (World Bank, 2001b; Jensen, 2005; Yeboah, 2005; World Bank, 2011a). It consisted of five farmer cooperatives and two pineapple exporters (Trienekens and Willems, 2007; NRI, 2010; Whitfield, 2011). The cooperatives had 80% share of the company and the exporters the remaining 20% (Jensen, 2005:18). A board, consisting of representatives from the farmers, TechnoServe, the bank through which the loan was administered, and others, was in charge of the company's affairs (Whitfield, 2011:21).[97] The five cooperatives had a total number of 164 farmers and total acreage of the company increased from 365 acres in 1999 to 460 acres in 2001, with a projection to reach 600 acres

[95] In the Abusa system, proceeds from farming are divided into three. The smallholder's portion was one-third, while the landlord's portion was two-thirds. A portion of what accrued to the landlord was payment for grant of use of the land (Amanor and Diderutuah, 2001)

[96] Farmapine was based on the FOM which was originally developed in Zambia (World Bank, 2001b:45).

[97] Prior to becoming a company, the cooperatives were receiving technical assistance from Technoserve, an international non-governmental organisation based in Ghana (Jensen, 2005:18).

in 2002 (World Bank, 2001b; Rottger, 2004).[98] The farmers were initially cultivating an average of 1.9 acres per farmer (World Bank, 2001b:45); but later on Yeboah (2005) states that Farmapine farmers cultivated an average of 5 acres (2 hectares) of land, on which they were able to consistently achieve exportable yields of 65%, an increase from 30% and 40% in 2001 and 2002, respectively (Rottger, 2004: 29).

The main objectives of Farmapine were stated as 'promoting the cultivation of pineapples to meet stringent standards of quality and size with minimal chemical residues in accordance with acceptable international standards; supporting member farmers with the required production inputs, financial assistance and recommended technology; and coordinating the purchase and marketing of pineapple with the prime aim of ensuring competitiveness in the international market' (World Bank, 2001b:45). There was an immense remunerative incentive to the farmer to produce under Farmapine's institutional arrangements, because the farmers were able to access the production inputs, credit and much needed technical assistance which were severely lacking in the agricultural sector at the time.[99] Initially 100% of the credit requirements for production by farmers were met by the company; technical assistance was provided with assistance from the Directorate of Agricultural Extension Services; and fertiliser and agro-chemical access was arranged by the company (Rottger, 2004:29-30). Accessing these inputs meant that these farmers could overcome some of the quality problems faced by the entire chain and, with knowledge of potential volumes, could also access and effectively participate in the EU market. Farmapine members were said to have a higher fruit quality in comparison with non-organised producers and earned about US$1,000 per acre compared with US$500 for non-organised producers (Yeboah, 2005: 83). In 2003 Farmapine was the second largest exporter of pineapple from Ghana with 4,854 tonnes valued at US$1.52million (Yeboah, 2005; Jaeger, 2008) as against 3,500 tonnes in 2000 (World Bank, 2011a:97): and over 50% of the sales of the company was in Germany and the UK (World Bank, 2011a:98).

However, the incentives provided could not be sustained as early as 2001. This was partly due to factors outside Farmapine's control, but also to management issues. Due to the depreciation of the Cedi, the national currency, farmers faced increased prices of inputs, and this affected their ability to adopt improved production techniques (World Bank,

[98] The initial number of farmers in the cooperatives is uncertain as different authors have quoted either 164 or 178 (World Bank, 2011a:97).

[99] As part of the ERP/SAP reforms, the government had cut down its extension services in agriculture.

2001b: 46). In 2002, the company ceased the practice of providing credit to the farmers, because of delays in payments by buyers abroad; on the other hand, the farmers could not access finance from local commercial banks because of unreliable payment schedules by the company (Rottger, 2004:29 - 30). The company also assessed the weights of the fruits visually (Rottger 2004:30), a practice which could have led to conflicts between the company and the farmers, since actual pricing is based on the weight of the fruit. Furthermore, the company had management problems. First, with a staff of over 80 people managing about 170 farmers, salaries formed a major part of the company's disbursements. Second, management had kept poor records of receivables, which had resulted in outstanding payments from buyers in the EU (World Bank, 2011a).[100] Last, farmers were said to have no respect for the board (Rottger, 2004:30). It is no wonder that Farmapine collapsed in 2007.

Outgrowers were farmers who regularly supplied pineapple fruits to a larger farmer who had contracted with exporters and independent farmers (Danielou and Ravry, 2005; Trienekens and Willems, 2007). In some cases, exporters encouraged smallholders to form outgrower groups and supplied them with inputs, such as suckers and credit for production, in return for first access to fruits (NRI, 2010: Section B:20).

Nonetheless, the largest group of producers was non-organised smallholders who engaged in oral contractual agreements, produced primarily for the local market and sold to anyone willing to buy from them. Another characteristic of smallholders was their attitude to risk. Smallholders are generally risk adverse partly due to their other characteristics, for example, lack of access to and affordability of credit and small land sizes.

6.2.2.2 Characteristics of Middlemen

The next set of actors in the sector were traders or medium scale farmers who either exported on their own or had agreements with exporters to supply fruits. They purchased fruits from smallholder farmers who faced difficulties in accessing the export market, mainly because their output was too low. The price of fruits sold to the middlemen is low since the market structure relating the middlemen and the smallholder is an oligopsony i.e. few buyers and many sellers. The middlemen were thus able to significantly influence the purchasing price.

[100] An amount of €120,000 was recovered from EU buyers when the managing director of the company was replaced in 2005 (World Bank, 2011a:98)

6.2.2.3 Characteristics of Exporters

The characteristics of exporters discussed here relate to their size, access to credit, knowledge on market trends and professionalism and provision of technical assistance to outgrowers and smallholders. According to Whitfield (2010a; 2010b) the first Ghanaian exporters in the pineapple chain were businessmen who needed foreign exchange for their main businesses or professionals from diverse backgrounds, such as teachers and civil servants, who saw an opportunity to earn extra income given the country's economic crisis at the time. They therefore accessed the EU market through friends and family. This manner of access and the incentive to participate in the sector to access funds for other concerns meant that, on a yearly basis, there was variability in the number of exporters. From 1988 to 1996, the number of registered exporters in the pineapple sector fluctuated between 50 and 75 members (Zinnah, 2000:41). As at 1988 there were 53 registered exporters in the industry, exporting 4,907 tonnes of fruit (Zinnah, 2000:41). The number of registered exporters increased to 73 in 1996, exporting 26,750 tonnes (Zinnah, 2000; Faostat, 2016). By 2002, the quantity exported had increased to 49,700 tonnes (SPEG) with 56 registered exporters (Voisard and Jaeger, 2003:10), while 65 exporters participated in the export of 71,000 tonnes in 2004 (OECD, 2007; MoFA, 2011). Also, initially, exporting firms were wholly Ghanaian owned; however, from the late 1990s the sector became fairly desirable as to attract a few foreign investments through partnerships and equity investments.

Pineapple cultivation requires huge investments in land, labour and equipment. Although exporters could acquire land through leasehold arrangements (about 30-50 years) or outright purchase, the transaction costs associated with negotiating the lease were generally high. The customary land tenure system made acquisition of land for large-scale agriculture complex and time consuming (World Bank, 2001a; Barrientos et al., 2009; World Bank, 2011a) as consent, for example, from a number of landlords or families is needed for large tracts of land because contiguous land may not belong to the same family (Fieldwork Interviews, 2013). Suzuki (2014:102) tells of an exporter's farm which had a portion of land in the middle left uncultivated because they could not find the rightful owner to grant permission.

Just like many smallholders, exporters were also credit constrained as both working and fixed capital was extremely difficult to come by. Though there had been financial sector

reforms to improve upon credit flows in the economy, they did not achieve the desired results (see Chapter 1). Minimum and maximum bank lending rates were consistently above 20%, making it inaccessible to pineapple producers and exporters (World Bank, 2001; Table 6.1).

Table 6.1: Minimum and Maximum bank lending rates (%), 1997-2004

End of period	Agriculture, Forestry and Fishing	Export Sector	Manufacturing Sector
1997	35 – 49	35 – 49	39 – 49
1998	30-42	31 – 45	32 – 45
1999	30-39.75	31 -39.75	32.5 – 40
2000	39 -55	39 – 55	39 – 55
2001	35 – 53	35 – 53	35 – 53
2002	27 – 50	27 – 50	27 – 50
2003	27.5 – 42.25	27.5 – 42.25	27.5 – 42.25
2004	23.5 – 37.5	23.5 – 35.5	23.5 – 37.51

Source: MoFA (2011)

Last, the managerial and technical capabilities of exporters were low. NRI (2010: Section C, p.3) notes that senior management in exporting firms did not have 'sufficient skills' to install a culture of innovation and professionalism.' These capabilities were needed to successfully participate in a changing international environment**.** While EU buyers required high and constant quality of produce delivered in significant quantities and at regular intervals, Rottger (2004:31) asserts that Ghanaian exporters demonstrated a lack of business attitude to production; for example, a laid-back attitude to meeting schedules. This attitude is rampant in the Ghanaian culture, where punctuality in any event or under any circumstance is rarely observed. Also, exporters did not have staff in charge of improving on-farm yields and marketing strategies (NRI, 2010: Section C, p.3).

6.2.3 Characteristics of the local context

6.2.3.1 Political conditions

Policy (1983-1990): The ERP/SAP reforms are credited for the emergence of the sector, though some authors (e.g. Daddieh, 1998; Whitfield, 2011) suggest that the growth of the

pineapple sector was not planned but rather accidental, since there were not targeted policies for the crop. As observed in Chapter 1, the SAP reforms implemented in the country under the auspices of the World Bank and the IMF were to revive productive sectors of the economy. As part of the SAP reforms of the early 1980s, non-traditional exports were introduced to diversify the country's exports and reduce reliance on gold and cocoa. Economy-wide incentives were implemented, e.g. an exchange proceeds retention scheme was put in place (see Chapter 1 for details). It had the effect of motivating entrepreneurs to get involved in the export of pineapples because they could acquire foreign exchange for their main businesses (Jebuni et al., 1992; Daddieh, 1998; Takane, 2004; Kastner, 2005; Whitfield, 2011). These entrepreneurs took advantage of the incentives and Ghana's relatively lower cost of air-freight transportation, in comparison with Côte d'Ivoire (Dixie and Sergeant, 1998), to build up the sector.

The Ghana Export Promotion Council (GEPC) was established as part of the government's strategy of export diversification.[101] The agency however 'lacked knowledge about horticulture production and marketing' (Whitfield, 2011:19), had inadequate capacity and lacked funds to functionally operate and achieve its objectives (Addo and Marshall, 2000; Whitfield, 2011). The Horticulture Development Unit (HDU) in MoFA was established in the early 1990s as part of the Agriculture Diversification Project. It was responsible for developing and executing policy aimed at the horticulture subsector, but it was also not adequately financed or staffed and had to rely on funding by development agencies (Whitfield, 2010b:26).

Policy (1991-2004): Donor driven and fragmented

> *'Most agricultural projects depend on donor sources for funding. For example, in the 2002 budget of MOFA, the Government of Ghana's contribution was 33 percent and the remaining 67 percent was expected to come from donor sources. Donor funding is used largely to implement projects, while government's contribution is used to mostly pay staff salaries, wages, travel allowances and other emoluments' (*FAO 2005:37)

After the macroeconomic stabilisation and economic growth period of the mid to late 1980s, government's economic policy with regards to the agriculture sector moved from liberalisation of agricultural prices and markets to 'developing and implementing agricultural policies and programs, building institutions including markets' (AfDB, 2002:

[101] It was renamed as the Ghana Export Promotion Authority (GEPA) in the 1990s.

vii).

The sectoral policy in agriculture in the 1990s and 2000s was geared towards making the private sector the engine of growth (World Bank 2001b; Ghana Trade Policy 2005). In continuation of this vision, in the 2000s the sector policy, the Accelerated Agricultural Growth and Development Strategy (AAGDS, 2001), was implemented. It focused on '(i) promotion of selected products through improved access to markets, (ii) development and improved access to technology for sustainable natural resource management, (iii) improved access to agricultural financial services, (iv) improved rural infrastructure, and (v) enhanced human resource and institutional capacity.' The implementation of strategies outlined in the AAGDS was embodied in the Food and Agriculture Sector Development Policy (FASDEP I, 2002-2007) and Food and Agriculture Sector Development Policy (FASDEP II, 2007-2015).[102]

6.2.3.2 Economic conditions

Within the economic conditions in which the chain was located, infrastructural and finance stand out.

Infrastructure: Two specific conditions relating to infrastructure stand out in this period; inadequate post-harvest infrastructure and high costs of transportation. Pineapple is a non-climacteric fruit, meaning that it never gets more ripened than when it is harvested (Takane, 2004; Paull and Chen, 2014). Its flesh is easily bruised and must be kept at a temperature between 8° and 10° Celsius to ensure it freshness after harvesting. Hence, post-harvest handling must be kept to a minimum. Unfortunately, producers and exporters did not invest in the necessary infrastructure to keep and/or improve upon the quality of fruits exported. At the farm level, there were no pack houses or refrigerated vehicles to transport the fruits. Fruits were exposed to high levels of humidity, because harvesting and packaging were carried out in the open field. Also, fruits were packaged on the farms and taken straight to the airport in any vehicle which could transport them (OECD, 2007:8; Fieldwork interviews, 2013). Suzuki (2014: 60) writes: 'One exporter who operates on 1,000 hectares of land today, could not initially afford to purchase a vehicle and started his pineapple-exporting business by hiring a taxi to collect fruit from smallholders and sending

[102] FADSEPII became necessary due to limitations in FASDEP I. For example, FASDEP I was criticised for failing to recognise that agricultural producers are a diversified set of actors with differing needs (World Bank, 2011a:21)

it to the airport.'

At both the air and sea ports, there were no infrastructure (e.g. no cooling facilities) to preserve the quality of the fruit. The Perishable Cargo Shed at the airport was just a basic shed. In times of delayed aircraft take-off, the fruits were kept in the trucks until the aircrafts were ready to leave (AfDB, 2005). At the sea-port, the facility for fruits and vegetables (Shed 9) was poorly ventilated, and in some cases, the indoor temperature could rise to a temperature of at least 5°Celsius more than the outside (Voisard and Jaeger, 2003: 10). These conditions caused a further deterioration in the quality of fruits.

Comparatively lower air transportation costs prior to 1995: In the decade before 1995, the volume of exports increased from 1807 tonnes to 14,954 tonnes in 1994 (Takane, 2004; Faostat, 2016). This represented an annual average growth rate of 44% and was partly due to comparatively lower air freight costs, which gave Ghana a cost advantage over its rival Cote d'Ivoire.

Comparatively higher sea-freight transportation costs: From 1995, however, limited air-freight capacity and improvements in technology made sea-freighting the preferred method of transportation. SPEG managed to procure the services of a French transporter ((Union Bananiere Africaine) which plied the route from Cameroon to Côte d'Ivoire enroute to France. A minimum of 230 pallets was required to induce the vessel to stop over at the Tema port (Voisard and Jaeger, 2003:3) but low volumes and high service charges made the costs of sea-freighting from Ghana higher than that of neighbouring Côte d'Ivoire.

Access to and affordability of credit: Shortage of finance to fund pineapple production and export was one of the most influential local conditions affecting the sector. Both smallholders and exporters were restricted in their ability to access credit, because of their lack of collateral, high lending rates (Table 6.1) and the lack of innovativeness of commercial banks. To access loans from financial institutions, smallholders and exporters required collateral in the form of assets, such as titled land, buildings and farm equipment. These assets can be seized in case of loan default. However, the majority of smallholders, for example, do not own the land on which they cultivate fruits. Many banks found it more profitable and less risky to lend to the government, lacked expertise to deal with horticultural products and were also more used to financing traditional crops (NRI, 2010; Section B, page 1). Hence, finance, if made available to the private sector, was generally

short term with an exorbitant interest rate. Given the long maturity period of pineapple (i.e. at least 12 months); and short-terms loans at exorbitant interest rates, both exporters and producers were priced out of credit transactions. Terms of sale also limited access to credit. In certain cases, producers had to wait as long as 4 months after supplying produce to be paid. Consequently, both parties generally relied on retained earnings or informal credit sources, such as friends and family.

It seemed that exporters' access to finance was to be alleviated when in 2002, the government established the Export Development and Investment Fund (EDIL) (later renamed Export Development and Agricultural Investment Fund (EDAIF) in 2011). It was to provide funds on concessionary terms to producers in the agriculture sector. It is funded by a 0.5% tax on non-petroleum imports. The funds are made available to designated local financial institutions for disbursement. No penalties exist for late repayment of loans and financial institutions bear full credit risk. EDAIF is primarily targeted at new entrants to the market, and has faced the challenge of non-repayment of loans.

6.2.3.3 Organisational conditions

Absence of an organisational network: Organisations are recognised as relevant in the development of economies (North, 1990). Also, the concept of 'embeddedness' by Granovetter (1985) articulates that economic action is affected by a network of relations in society (i.e. by local conditions). The importance of both concepts in the effective and efficient functioning of value chains is suitably captured by the notion of 'institutional thickness.' Institutional thickness gives credence to the impact that different organisations (e.g. firms, financial institutions, trade associations, government agencies) engaging in high levels of efficient interactions can make in a value chain through a sense of common purpose (Amin and Thrift, 1994:14-15).

In the pineapple chain, a network capable of providing knowledge on production and processing, new technologies and innovation, assembling and distribution of market information, assurance of and uniform quality of fruits, tracking prices or a list of smallholders and exporters who reneged on contracts, did not exist. There were limited, if any, relations between various public and private organizations, such as the Ministry of Food and Agriculture (MoFA), the GEPC, SPEG, research and financial organisations. MoFA's involvement in the sector was limited to regulation, and horticultural research was

limited to research on papaya (Danielou and Ravry, 2005:26). Although the GEPC could be said to be the agency in charge of NTEs in the country, its financial dependence on a state seemingly promoting NTEs from afar meant that it was inadequately financed to effectively promote the growth of the sector. The GEPC at the minimum provided exporters with training on good practices in export trade and assisted exporters to participate in international trade fairs. Market information, for example, had to be acquired by the exporters themselves, who in many cases did not have the financial resources to do so and/or did not see the need for it.[103]

This situation was in contrast with services provided in the cocoa sector by divisions of the Ghana Cocobod.[104] Cocoa beans from Ghana earn a premium based on their high quality compared with those of other countries. The Cocoa Research Institute of Ghana (CRIG) oversees research into technologies for cocoa production: The Quality Control Division (QCD) ensures the best grades of cocoa are sold on the international market. The quality of cocoa is checked both at the farm level and before it is exported, and the Cocoa Marketing Company (CMC) oversees marketing cocoa abroad. All local buying companies which deliver cocoa below a grade two standard to the CMC are fined 50% of their margin (Shepherd and Onumah, 1997 in Williams, 2009 and Granleese, 2009).[105]

Lack of horizontal coordination among exporters: The lack of depth of interactions also extended to exporting firms. Two exporter associations operated in the sector; the Sea-Freight Pineapple Exporters of Ghana (SPEG) and the Horticultural Association of Ghana (HAG). The Sea-Freight Pineapple Exports of Ghana (SPEG) was formed in 1994 and has since then become a valuable organisation in the development of the sector. Studies in the cluster literature have shown that an important factor for development of sectors is horizontal collaboration or cooperation among firms. As (USAID, 2003:38) notes 'cooperation with other producers and exporters has traditionally been an alien concept in Ghana's private sector.' While Ghanaian pineapple exporters were clustered in the same geographic area, cooperative activities were non-existent. An interviewee in this study

[103] The GEPC provided a platform to connect exporters to the external market but this was limited to putting buyers and sellers in contact with each other.

[104] The state still plays a critical role in the cocoa value chain due to the partial liberalisation of the sector rather than the full liberalisation programme requested by the World Bank. Ghana Cocoa Board (Cocobod) was established in 1947is a semi-autonomous state-agency for all things cocoa in Ghana.

[105] Grades and quality standards for cocoa are found in ITC UNCTAD/WTO (2001)

noted that exporters '*viewed each other as rivals*' and hence could not come together as a collective whole.

6.2.3.4 Social conditions

Land tenure system: As indicated in section 5.4.3, two land tenure systems operate in the country. For access to agricultural land, it is the customary system which must first be satisfied since most land is vested in families or chiefs. Access to land in this way is first based on lineage, with decisions regarding access, availability and use in the hands of clan or family heads.

Availability of labour and skills: Pineapple production is a labour-intensive job involving land preparation, crop husbandry and harvesting. However, it does not require highly trained labour: so much of the work on the farms could be done by casual labourers. Sources of labour used were family and hired (local and migrant) labour (Ampadu-Agyei, 1994; Barrientos et al, 2009). Labour supply was generally abundant in the producing areas, though shortages occurred in the months of January to April because land preparation on pineapple farms coincided with the harvesting of cassava and maize (staple crops) on family farms (Ampadu-Agyei, 1994:24).

6.2.3.5 Technogical conditions

As noted above, the inputs for production were freely available in the country. There was no indication that access to suckers was a problem in this period, as they were readily available from producers' own farms or from other farms. Agro-inputs were relatively easily accessible, since the producing areas are located near urban areas (Danielou and Ravry, 2005:18). However, what was likely a challenge was affordability and the knowledge on how and when to apply these inputs. Pineapples are known to respond favourably to fertiliser application in the right amounts and at the right time. From the 1970s, the government of Ghana subsidised the price of fertiliser to promote fertiliser use; but as part of the economic reforms in the 1980s, these subsidies were removed. For example, Asenso-Okyere et al, (1991 in Hutchful, 2002:73), observe that in the 1970s and early 1980s, fertiliser was subsidised by about 80% of the price. By 1989, this had dropped to 15% and to 0% in 1990. Consequently, the removal of the fertiliser subsidies led to a drastic increase in the price of fertiliser such that fertiliser prices more than doubled after the subsidy was removed (Kherallah et al., 2000:15). The impact of the price increase on the cultivation of crops was a decline in fertiliser use from 7.7kg/ha to about 3.8kg/ha in

1990 (Jebuni and Sein, 1992 in Hutchful, 2002:73): but it has recently increased to 7.4kg/ha (Benin et al, 2013:38). What's more, there were no organisations to assist in the transfer of knowledge to producers. Government extension services had been greatly scaled back per SAP/ERP reforms; hence the ability to transfer knowledge to producers was relatively low.

6.3 The form and content of transactions in the Smooth Cayenne configuration

'Actors take in information about the relevant exchange elements, process it and then, most important of all, take decisions and, thus, breathe life into transactions.' (Cornelisse and Thorbecke, 2010:124).' The configuration within which transactions were determined in the Ghanaian pineapple export sector in the period 1986-2004 is given by the characteristics presented above. Within this configuration, transactions were governed under the market system, mainly to minimise transaction costs.

6.3.1 Organisation of producers and exporters

As noted earlier on, smallholders supplied as much as 40% of the fruits exported by the Ghanaian chain. Unlike other agro-export crops, where exporters need to first provide incentives to farmers to grow the crop, Smooth Cayenne was already being produced and marketed to the local market. Hence, with the opening up of export opportunities, i.e. the comparatively higher export price and low entry barriers, a relatively large number of farmers were attracted to participate in the chain. The participation of smallholders was further aided by (a) social conditions which made access to land for commercial purposes a difficult and tedious process (Sarpong, 2002); (b) lower costs of production in comparison with other producers, i.e. 22% lower than that of large scale farmers, probably due to reliance on their own-labour (Obeng, 2004, cited in Takane, 2004:36); (c) higher returns from pineapple farming compared with other crops and (d) their ability to get good yields because of a long history of cultivation.

Despite these favourable conditions, smallholders were largely unorganised. Historically farmer groups have not been encouraged. The large number of farmers meant that exporters could easily find partners and consequently, the search cost of identifying a pineapple farmer was low. However, a hidden component of the search cost which most likely was of more significance to the exchange relationship was the high cost of ascertaining the reputation of the exchange partner. The large transactional costs (discussed in the sections below) associated with investing in smallholders discouraged exporters and encouraged market governance as the coordination mechanism. In addition, exporter

relations with each other were characterised by a lack of trust, partly due to their relatively similar sizes which promoted a competition based on price for the chain's limited resources.[106]

6.3.2 Production and Marketing of Fruits

Ghanaian exporters gained the status of second largest African supplier of pineapples to the EU after Côte d'Ivoire. During the 1980s and early 1990s, Côte d'Ivoire was the main supplier of pineapple fruits to Europe, but lower air-freight costs gave the Ghanaian chain a competitive advantage over Côte d'Ivoire. Consequently, Ghanaian exports obtained a 60% share of the European pineapple air-freight market (Dixie and Sergeant, 1998). The lower air-freight cost was due to three factors; (a) availability of freight capacity (b) variety of destinations resulting from diversity of airlines operating from the country[107] (c) efficient and predictable ground handling services (Danielou and Ravry, 2005:11). This was in comparison with Cote d'Ivoire which was limited to the use of Air France and SN Brussels airlines only (Danielou and Ravry, 2005:11).

In the early 1990s, Côte d'Ivoire shifted its focus to French importers and left a demand opportunity in North Western Europe which was filled by Ghanaian exporters (Dixie and Sergeant, 1998: 31). This led to increased production among both smallholders and exporters, some of whom had begun to purchase land for their own production (Technoserve, 2004 in Whitfield, 2010b:22). Smooth Cayenne had a comparatively high local demand, and traditionally, farmers in Ghana can sell whatever they produce whenever they want to, because of the way local markets are structured. Local markets are characterised by spot market transactions which indicate a lack of communication between producers and buyers (e.g. wholesalers, market women) on varieties grown, planting schedules, harvesting schedules, and production processes, among others.

As exports increased in the 1990s (Figure 6.1), one may think that it generated linkages between farmers and exporters which displaced this traditional way of production and marketing. Producing for an export market involves interacting with a potentially different set of consumers with different (sometimes more complex) demands. Thus, knowledge requirements will extend beyond what the local market demands to include knowledge on current and future supply, inputs used and production practices.

[106] None of them at the time could be classified as large until Golden Exotics entered the market.
[107] Advantages (a) and (b) resulted from the liberalisation of the air transport industry in the early 1980s.

Figure 6.1: Ghana's pineapple exports by quantity and value (1989-2004)

Note: Value and quantity data; 1989-1999 from Faostat (2016), 2000-2004 from MoFA (2010). Data for 2004 differs for MoFA and international sources.
Source: Faostat (2016) and MoFA (2010)

Unfortunately, such information was lacking. There was no organisation at the national or sector level responsible for collecting data on the acreage and varieties cultivated; and there was no indication that exporters influenced the quality, quantity or timing of the cultivation of pineapples. Exporters were not involved in, for example, advising farmers on which inputs to use, how to use the inputs or in monitoring and supervising production (Yeboah, 2005; Conley and Udry, 2008). As indicated in Section 4.5, pineapples respond well to the application of nitrogen and potassium fertiliser and although inputs for production were widely available, it was likely that affordability and knowledge on how much to apply were challenges. For example, smallholders were said to know which fertilisers to use; however, they were given no guidelines by exporters on how much to apply. The only time that exporters intervened in the production process was near harvest time when they inspected the fruits before the application of the chemical ethephon, which hastens the rate of ripening, and later carried out harvesting themselves (Whitfield, 2010b; Fieldwork Interviews, 2013).

It cost US$1,228 to produce one acre of Smooth Cayenne in 2004 (NRI, 2010: Section B, p.22). This amount is by no means easily affordable by many smallholders and exporters, as access to credit (finance) was extremely challenging for both.[108] The relative ease of access to land by smallholders did not translate into ease of acquiring credit, since most

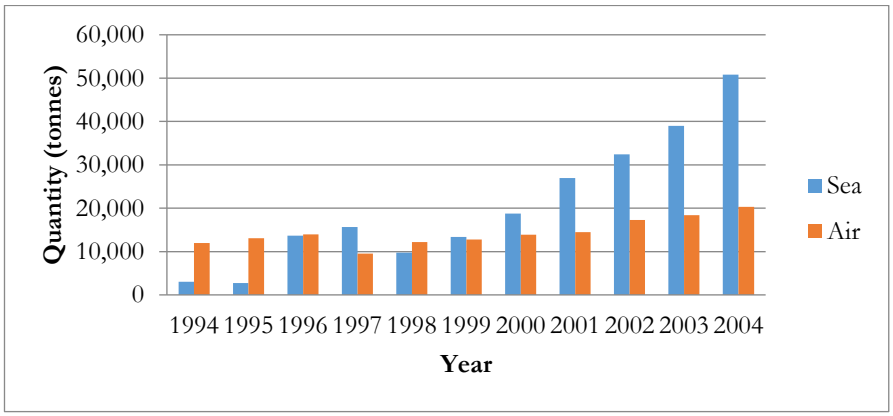
[108] Whitfield (2010b:23) notes that exporters made much profit from air-freighting their produce but did not invest in improving the quality of their fruits because they saw their closest competitor, Côte d'Ivoire, doing things just as they did.

smallholders do not have title to the land and therefore cannot use the land as collateral for bank loans. Financial institutions not only viewed agriculture as risky (hence interest rates were high) but also they choose to lend to government. Furthermore, some smallholders and exporters had been given finance but were unable to pay back, and this reinforced the negative perception of agriculture as a risky venture to fund.

In the absence of external finance, smallholders had to rely on their own incomes or borrow from friends and family. The likelihood that the amounts of finance generated from these sources was enough to fully cover production is debatable. Yeboah (2005: 83) notes that agro-chemical inputs costs were the largest variable costs faced by farmers, leading to the Farmapine company advancing credit in that area to its producers. High input costs reduce the smallholders' profit margins and therefore incentivise the farmer to cheat on the application of inputs. It is therefore likely that pineapple producers who were cash constrained did not apply as much fertiliser as is needed, or in other cases, applied too much (due to inadequate knowledge), creating quality issues in both cases.

High marketing cost was a characteristic of the interactions between exporters and buyers (importers); hence the marketing strategy of Ghanaian exporters targeted the low quality-low price segment (wholesalers and corner shops) of the EU market in the UK, Germany, Italy, Switzerland and Belgium (Danielou and Ravry, 2005). The comparative advantages gained by air-freighting produce began to decline in the mid-1990s because of restricted air capacity and improvements in sea-freight technology. This pushed Ghanaian exporters to ship their produce; and since then sea-freighting has become the main mode of transportation of pineapple fruits (Figure 6.2).

Figure 6.2: Pineapple exports from Ghana by sea and by air (1994-2004)



Source: SPEG

Sea-freighting began in 1995 and its impact on the chain was the eroding of the transportation cost advantages the chain had over Côte d'Ivoire (Dixie and Sergeant, 1998; Whitfield, 2010b) because of the associated high marketing costs. As sea-freighting of pineapple required a sizeable and consistent volume throughout the year and individual exporter volumes at the time would be inadequate for any sea vessel to agree to transport the fruits to the European market, a new organisation, SPEG, was formed in 1994 with the support of the USAID and the Ghana Export Promotion Authority (GEPA). Its objective was to coordinate the transport of fruits from Ghana.

Low volumes and inefficiencies in port services increased per unit cost of transportation (AfDB, 2005:11). With a vessel in place to transport fruits, exporters were required to pay for the space allocated on the vessel even if weekly volumes were not enough. In peak seasons, exporters could export as much as 1,200 pallets per week (Voisard and Jaeger, 2003:3); but, generally, volumes were low.[109] Initially, the vessel called once a week. This increased to twice a week with increases in the quantity exported. Transportation costs were as much as 40% of total costs of production (AfDB, 2005:11); hence, the rate of shipping from Tema in Ghana was about US$72 more expensive per pallet than from Abidjan in Côte d'Ivoire (AfDB, 2005:11). This restricted the growth in Ghanaian exports in comparison with other competitors (Figure 4. 8).

Low volumes were an outcome of two factors; low capacity of exporters and poor fruit quality at arrival. Despite the relatively large number of exporters, the volume of exports was concentrated as most exporters were small i.e. had low capacities. Dixie and Sergeant (1998:31) observes that only two exporters had capacities over 2,000 tonnes (the minimum output required for exporters to be profitable). Low capacity had further worsened by 2004 when only 12 out of 65 exporters had export volumes of more than 1,000 tonnes per week (OECD, 2007:9).[110] Most exporters (about 60%) had capacities of less than 25 metric tonnes per week (NRI, 2010, Section D, p.1). In 2000 and 2002, the top five exporters accounted for 72% and 57% of exports, respectively (Voisard and Jaeger, 2003; Danielou and Ravry, 2005). The low volume capacities were indicative of lack of economies of scale and thus the inability to sustain the supply of fruits on a regular basis.

Lack of infrastructure also affected the competitiveness of the chain. After harvesting,

[109] A minimum of 4,000 pallets was required to lower the costs of transportation (AfDB, 2005:11).

[110] The top five exporters in 2002 were Jei River, Farmapine, Koranco, Milani and Prudent (Voisard and Jaeger, 2003:4).

pineapple bruises easily, must be kept at a certain temperature to maintain its appearance and also keep its freshness. The lack of post-harvest infrastructure both on-farm and at the ports of exit (Section 6.2.3) greatly affected the quality of fruits exported. Fruits rejected because of poor post-harvest handling accounted for as much as 30% - 40% of produce (Fieldwork interview, 2013). In addition, in periods of high demand, producers harvest immature fruits for export, further impacting the reputation of pineapples from Ghana. Immature fruits have low brix levels, are more likely to be bruised and do not develop a good taste (Rohrbach and Paull 1982; Paull and Chen 2003; both in Paull and Chen, 2014:1). When fruits are air-freighted, they arrive in the importing countries in less than 8 hours after leaving the farm, ready for consumption. With sea-freight, it takes between 10 and 15 days; thus, any quality defects, such as bruising, are amplified by the time they get to the consumer (Dixie and Sergeant, 1998).

While Ghanaian exporters then filled a gap left by Côte d'Ivoire, the quality of fruits was questionable. Local conditions critically impacted the quality of fruits (i.e. consistency in size, shape and colour) exported and the reliability of supplies. Crucially, exporters needed to define the attributes of the product and ensure that farmers complied with these attributes. Exporters were unable to do this. In addition to being credit constrained because of low profit margins and local financial conditions, exporters (a) lacked the necessary skills and knowledge themselves (b) had small volumes and (c) any investments made to raise the quality of fruits on-farm would be futile without corresponding investments in sector-wide infrastructure. Whitfield (2010b:23) mentions that only one exporter (BFL) had built a packhouse with complete cooling facilities as at 1995. In transportation, all pineapple from Ghanaian exporters (including Bomarts) were loaded into the same hatch, diminishing the effect of pre-cooling and making futile the logic of investing in packhouses.

Swinnen (2006:13) notes that uncertainty over product quality or reliability of supplies leads to contractual relations. Contract farming is prevalent in agriculture and usually involves access to technical assistance, inputs and credit by the farmer (Glover, 1984; Minot, 1986; Baumann, 2000). The little evidence of contract farming in the chain during the mid-1980s to 2004 is given by Goldstein and Udry's (1999). In their field survey of pineapple producers in the villages in four clusters in Nsawam and Aburi (in the Eastern Region of Ghana), they noted that there was little evidence of contract farming i.e. interlinked contracts specifying production and credit. Nonetheless, Deb and Suri

(2013:271) provide evidence that some form of interlinked contractual relations had taken hold from 2001. Although the contracts involved the provision of credit (finance), indicated a guarantee purchase price and a promise to buy the farmer's entire produce, they were informal and verbal. The credit given was either in-kind (e.g. provision of fertiliser prior to cultivation) or in-cash (i.e. cash advances for emergencies such as school fees and health problems). In a few cases, inputs such as fertiliser and suckers were agreed upon (Danielou and Ravry, 2005; Deb and Suri, 2013). At harvest, the exporter/processor deducts the cost of inputs supplied from the total amount owed the farmer and takes the fruits (Danielou and Ravry, 2005; Deb and Suri, 2013). It is interesting that for a product where quality (i.e. consistencies in size, colour) and reliability of supply were important, contractual relations were not more forthcoming. The provision of input, credit and guaranteed prices would have assisted exporters to exert control over the quantity and quality of pineapple produced and exported.

Apart from the important credit-constrained characteristic of exporters, a major reason why strong contractual relations did not evolve in the Ghanaian chain was the lack of contract enforcement mechanisms and its incentive to actors (Section 6.3.3). As mentioned earlier, exporters competed on price. Profit margins for exporters was low and continued participation in the chain required that they kept their costs of production low (Dixie and Sergeant, 1998:32). This implied that any extra increases in cost, for example, by investing in farmers, must generate substantial benefits. However, the potential for such an outcome was limited as contract enforcement mechanisms were virtually non-existent. In the study's conceptual framework, it was noted that informal rules (e.g. trust and reputation) can be used to structure exchange. Trust and reputation are reinforced when there are means for sanctions. Unfortunately, in the Ghanaian chain, no mechanisms existed to collect information about the past actions or behaviours of both exporters and smallholders who defaulted on their promise to pay a particular price, collect fruits contracted for, sell fruits at the contracted price, or make the contracted quantity available. Little or no access to such information precluded the use of reputation as an enforcement mechanism. On top of this, the characteristics of the smallholder and of the legal system meant that sanctions were ineffective. The legal system was underdeveloped to deal with breaches of agricultural contracts. Effectively, breach of contracts, even if written, never makes it to the court of law because (a) smallholders generally do not have any assets which can be relied on to repay debts (b) the perception of long delays and (c)costs of using the legal system. The

inability of local conditions to enforce contracts encouraged opportunistic behaviour by both parties and they highly mistrusted each other.

6.3.3 Distribution of risk

High transaction costs in the chain did not discourage the participation of either smallholders or exporters in the chain. Even in the face of high risks of participation, the potential income to be earned by a farmer was much higher than what could be earned selling pineapple or staples on the local market. For example, Goldstein and Udry (1999) found that the median profit per hectare for pineapple farmers was 1.7 million cedis (US$1062.5 or US$708) more than that of those who cultivated food crops like maize and cassava.[111] In 2004, MoFA, using gross margin calculations, also found that pineapples were more profitable (46.92%) than other food crops such as maize (49.94%) and cassava (59.76%) (MoFA, 2004 in Abbey, 2005).[112]

From the 1990s, most exporters in the chain endeavoured to produce the bulk of their fruits on their own farms, thus they were less reliant on smallholders. They however still bought from them to make up export volumes and diversify market risks. Although exporters plan their production ahead of time, the long time lag between production and harvest could cause changes in plans. For example, bad weather might result in less than estimated fruits, exceptionally good weather might cause an oversupply of fruits and buyers in the EU can change their orders. Generally, an exporter confirmed his order with an EU buyer about a week before shipping was due. If he has enough fruits on his own farm to fulfil the order, he does not purchase fruits from smallholders. However, if he did not have enough, the exporter or middlemen would visit known pineapple farming communities to purchase fruits directly from farmers or in some cases to collect fruits already contracted for.

Although Smooth Cayenne had a high local demand, it was inaccurately priced (Danielou and Ravry, 2005:14). Unlike the case of Costa Rica (Section 6.6), where there were established wholesale market and mechanisms for collecting and monitoring production data and prices in the sale of fruits and vegetables, there was no such mechanism on the

[111] Goldstein and Udry (1999) conducted a field study of 4 villages in Nsawam and Aburi (in the Eastern Region of Ghana). The median profit per hectare was calculated as the value of output minus the costs of purchased inputs and value of family labour inputs. Over the study period (18 months), the US$-Cedis exchange rate changed from US$1=1600 Cedis to US$ 1=2400 (Goldstein and Udry (1999:26).

[112] Gross margin was calculated as the ratio of the total cost of producing a particular crop to the revenue it generates multiplied by 100. The lower the gross margin, the more profitable the crop is (Abbey, 2005:37-38).

Ghanaian market. Fruits were priced based on a visual assessment and hence the income earned might fall short of production costs. Typically, farmers produced pineapple and waited for a buyer to come to them (Personal communication, 2015). At that moment, they negotiate with the buyer over price, presumably with the domestic market price as a benchmark. What is known is that prices of Smooth Cayenne sold to an exporter by smallholders and outgrowers were higher than those sold to the domestic market (for example, US$0.10/kg to exporters compared with US$0.01-0.04/kg on the domestic market (Yeboah, 2005:83). It was only the Farmapine company which instituted a pricing mechanism with prices set at the beginning of the growing season and reviewed every so often to reflect market conditions (Yeboah, 2005:83).

When faced with a risk, it can be avoided, mitigated, coped with or transferred (Miller et al., 2004; World Bank, 2011b). Smallholders faced production risks in the form of both price and credit risks. Production risk was high because it was possible for an exporter to completely renege on his contractual obligations (Harou and Walker, 2010). Additionally, an exporter would pay a lower price than expected or agreed upon especially in times of oversupply of fruits or when market conditions in the European market turn unfavourable (Fold and Gough, 2008; Suzuki, Jarvis and Sexton, 2011; Fieldwork Interviews, 2013). This meant that the producer received much less revenue than expected.[113] If a producer has accessed finance for production, the likelihood of delayed payment for supplied produce (Takane, 2004) meant that there was a possibility that loan repayment would be difficult.

As the farmer's main objective was to sell without making a net loss, smallholders' response to a price risk they encountered was to avoid or mitigate it by selling to the highest bidder regardless of prior agreements with other exporters. This practice, known as 'side-selling', was extremely prevalent in the sector. Another response was to contract with a number of exporters and/or processors at the same time. All exporters interviewed for this study had experiences of smallholders indulging in opportunistic behaviour by selling produce to other buyers who offered a higher price (per kg) at the time of harvest.

In relation to farmers, exporters bore two types of risk: supply and financial. A supply risk may feedback into a financial risk and/or reputational risk. Supply risk, i.e. the inability to deliver contracted quantities at a set time and/or withdrawal from the market, was plausible

[113] Fruits not sold to exporters and/or processors were sold on the local market to market 'queens' at much lower prices.

if a contracted smallholder sold all or part of his produce to another exporter, leading to less than expected quantities for export. On the other hand, the exporter could transfer his supply risk to the smallholder in times of abundant supply, by not showing up to collect fruits agreed on or offering a lower price than previously agreed upon.

In relation to wholesalers or buyers, exporters bore price and transportation risks. Prices were negotiated between exporters and buyers. Price risks arose from the perceived quality of the fruit at delivery, a drop in consumer demand at certain times of the year, e.g. in summer, and excess supply of fruits. In such times, buyers reneged on earlier promised prices. Furthermore, lower than expected prices translated into financial risks as the expected income from supplies was reduced. Exporters could, and did, transfer these risks to producers as indicated above.

Transportation risks are enhanced when commodities are easily perishable (Jaffee, 1995:31). Due to the reputation of Ghanaian pineapple exports as being of low quality, exporters were forced to ship to buyers on Free on Board (FOB) basis. When an item is shipped FOB, the owner of the goods is liable for any damages that may occur during transportation. Exporters unfortunately did not have agents in Europe to confirm the details of the state of their fruits when they arrived. This made it feasible for risks to be transferred to the exporter. An exporter shared anecdotal evidence of how he received an email from a buyer in the Netherlands after dispatching some fruits. He was told that the quality of the fruits was not up to standard and he would have to bear the costs. Fortunately for him, he was in the Netherlands on a private trip, so he asked to verify the condition of the fruits himself. Upon disclosing this information, he was told that he would no longer be liable for costs of the fruits. He later found out that the fruits had arrived on a public holiday and the buyer had delayed transfer from the port (*Personal conversation, 2015)*

6.4 Role of other actors

Within the period under consideration, the Ghanaian pineapple export sector commanded less attention and support from the government in comparison with traditional crops such as cocoa. This was despite the rhetoric of horticulture exports being a tool for export diversification and the potential foreign exchange earnings to be derived from the pineapple sector. According to Addo and Marshall (2000:359) the commitment made by the government in 1983 to diversify the country's export base was 'a major shift in the

focus, emphasis and pattern of national economic development policy.'[114] However, it will be shown in this section that such a 'major shift' did not actually occur in reality because government policies were broad based rather than pineapple sector specific. Government prioritised the stability of the economy; hence, although government incentives promoted entry into the NTE sector and increases in export volumes occurred, an incoherent strategy and macroeconomic instability meant that key factors such as infrastructure and finance to sustain the competitiveness of exporters were not realised.

Through sheer determination, local entrepreneurs had propelled the pineapple industry forward. However, with competitive pressures from other global fresh produce countries such as Costa Rica and Côte d'Ivoire, the competitiveness of the Ghanaian industry was declining. Cornelisse and Thorbecke (2010:190) suggest that government interventions are aimed at the form and content of transactions. As discussed earlier on, a significant local condition which negatively impacted the chain was the lack of infrastructure. It is therefore surprising that, until the mid-2000s, the government did not intervene in improving infrastructure.

From the mid-1980s to 1990, there was a lack of targeted government interventions at the sector, even though the pineapple sector had become the most important sector in the NTAE sector of the economy. NTEs were grouped into three: (a) agricultural products: e.g. pineapple, yam, cassava, beans, okra, rubber, tuna, medicinal seeds and plants (b) Processed and semi-processed items: e.g. canned tuna, plywood, veneer, aluminium utensils, canned fruits and vegetables (c) handicrafts: e.g. textiles, ornamentals (e.g. beads and jewellery), wood carvings (Addo and Marshall, 2000; World Bank, 2001a). Development plans to achieve the objective of the government were set out. Two development plans were implemented; the 3-year Non-Traditional Export Development Plan, 1988-1990 (NTEDP, 1988-1990) and the 5-year Medium Term Plan for Non-Traditional Export Development, 1991-1995 (MTP-NTED, 1991-1995). The objective of both plans was to increase and diversify the export base of the country. The 3-year plan resulted in the increase in NTE earnings from 3.2% of total export earnings in 1986 to 7.0% in 1990 (Kastner, 2005:26), but this fell short of the targeted 15% of total export earnings. The 5-year plan was then implemented with the objective of increasing the share

[114] Bond and Milne (1987:98) define export diversification as 'an increase in the number of distinct products in the export base, combined with a reduction in dependence on any one product as a source of foreign exchange earnings'

of NTE earnings in total earnings to 15% and the doubling of the number of registered exporters from 1000.

The GEPC was the lead institution and the criteria for selecting products to be paid attention were: '(a) low import content (b) overall contribution to export earnings, (c) existence of a limited organized production base (d) the potential for immediate export expansion (e) the degree of value- added (f) linkage effects on other sectors or projects (g) the availability of ready external market' (Addo and Marshall, 2000:361).[115] The main outcome of these development plans was the establishment of Export Production Villages (EPVs), jointly financed by the government of Ghana and the United Nations Development Project (UNDP). According to Ampadu-Agyei (1994:22), incentives given to the EPVs included sponsorship, assistance in sourcing of credit and extension services; and EPVs producing yams, wood carvings, black pepper and rattan products were in place as of December 1993 (Addo and Marshall, 2000:361).[116]

It is interesting that there were no specific and concrete measures towards pineapple export, because it met at least three factors in the criteria for setting up EPVs. By 1986, pineapple exports had become the number one horticulture export of the country, with 85% share of horticultural exports (World Bank, 1990:11). Also, volumes were over 4,000 tonnes as at 1988 (Takane, 2004:31). Two reasons could be put forward for the perceived disregard of the pineapple sector; (a) the main aim of the reforms from 1983-1986 was macroeconomic stabilization and economic growth. It was the belief that the invisible hand of the market would costlessly allocate goods and services consistent with relative prices, thereby 'getting prices right' through instruments such as the exchange rate and liberalisation of agricultural input and output. By 1991, the fertiliser market, for example, had been fully liberalised and all subsidies on agriculture inputs removed (AfDB, 2002).

(b) The unwillingness and/or inability of policymakers in the GEPC to look outside the course of action pursued by the government. According to Addo and Marshall (2000:361), the GEPC's development planning process was controlled by politicians who 'unconditionally endorse macroeconomic policies formulated within the context of the ERP.' [117]

[115] The GEPC was set up in 1969 but remained relatively dormant until it was rejuvenated in the 1980s.
[116] Products include cashew, chillies, mushrooms (Addo and Marshall, 2000:361).
[117] It is highly plausible that policymakers at the time were constrained because they served under a military-

Specific to the pineapple industry, only one programme, the Pineapple Production Expansion Programme (PPEP), was initiated and implemented. This was done at the request and individual influence of the Secretary of Trade and Industry from 1987-1990 (Whitfield, 2011:29). The minister and the head of the GEPC decided to intervene after surveying market opportunities in Europe and realising that pineapple production in Ghana was hampered by supply side constraints (Whitfield, 2011:29). The main objectives of the programme were: (a) To expand the production of pineapples for the export market; (b) To provide soft loans and assistance in accessing planting material from Ivory Coast; and (c) To assist in the production and marketing of Ghana's pineapples (Whitfield, 2011:29, 46). Since the programme could not be financed through the country's budget, the secretary of Trade and Industry raised capital himself through informal means (Whitfield, 2011:29). This assistance afforded pineapple exporters came to an end in 1988 when the minister lost his position in the government.

The attempt by the Secretary of Trade to intervene in the pineapple chain is akin to what an individual (Mohammad 'Bob' Hasan) managed to do in the Indonesia Timber Industry (Gellert, 2003). Hasan, however, managed to have the buy-in of the state, resulting in the structuring of the Indonesian timber chain to ensure that domestic firms and the country benefitted from participating in global trade.[118]

Throughout the mid-1990s to early 2000s, the government had a more specific role to play through the provision of infrastructure, finance, research and extension. Unfortunately, this role was left to donor funded programmes which were planned with little input from industry participants and were so heavily focused on achieving the objectives of donors. Interventions by donor agencies were heavily focused on export-led growth, i.e. increasing the number and volume of production, that the quality of production was largely an afterthought. Though efforts were made to equip producers and exporters with knowledge on quality, it was spread thinly over a number of products, producers and exporters. Table 6.2 and the discussion below show some of the industry specific policies implemented by development agencies in the pineapple sector.

---

led government which could arbitrarily develop and implement rules and regulations.

[118] Hasan's personal and working relationship with the president of Indonesia at the time, President Suharto, gave him and the timber firms association (Apkindo), the platform to legitimise his influence (Gellert, 2003:64-66).

Table 6.2: Donor Interventions targeting the pineapple sector (late 1980s into 2000s)

Name of Programme	**Start Date**	**End Date**	**Funding Agency**
The Pineapple Production Expansion Programme	1987	1990	Government of Ghana (GoG)
Agriculture Diversification Project	1991	1999	World Bank
Trade and Investment Programme (TIP)	1993	1998	USAID
Horticulture Export Industry Initiative (HEII)	2004	2006	World Bank
Trade and Investment Reform Programme (TIRP)	1998	2004	USAID
Trade and Investment Programme for Competitive Export Economy (TIPCEE)	2004	2009	USAID

Source: Author from various sources

Agriculture Diversification Project (1991-1999): In the government's statement of Agricultural Policy, 1987, the need to widen the focus of the country's diversification efforts to include crops in which the country had comparative advantage was identified (World Bank, 1990:1). Hence the main aim of the Agriculture Diversification Project was to 'revitalize and expand the cultivation of non-cocoa tree crops and horticultural crops, which can be efficiently and competitively cultivated in Ghana for export and import substitution' (World Bank, 1990:16).

For the first time, pineapples were specifically targeted with the aim of the plan to 'provide technical, marketing and infrastructure support for the export of horticultural produce, especially pineapple' (World Bank, 1990: iii). The GEPC initially implemented the horticultural produce component of the plan, but implementation power was later transferred to the Ministry of Food and Agriculture (MoFA). It was financed with funding of US$16.5 million from the World Bank.

Specific aims of the project included:

- Increase in pineapple production from 7,000 tonnes per annum to 20,000 tonnes in

5 years.

- The creation of a Horticulture Unit within MoFA.
- The development of marketing infrastructure through the strengthening of the GEPC to identify market channels and introduce Ghanaian exporters to reliable buyers.
- Organisation of smallholders into cooperatives for export production.[119]
- Increased access of all types of producers (large, medium and small) to technical production inputs through direct contact, use of extension staff from MoFA and published materials.
- Rehabilitation of roads in pineapple producing areas.

Trade and Investment Program (TIP): This was implemented by AMEX International from 1993 to 1998 with funding of US$80millionfrom the United States Agency for International Development (USAID). The programme was aimed at accelerating non-traditional export growth through an improvement in the enabling environment and the capacity of the private sector. This was to be achieved by (a) 'strengthening the policy and institutional framework necessary for the private sector to significantly increase investment and exports (b) improving the financing and incentives available to the private sector (c) improving the capacity of individual firms and entrepreneurs to export' (USAID, n.d). Commodities focused on included pineapples, salt, prawns and shrimps, furniture and other wood products.

It involved (a) the provision of support to industry associations (b) provision of technical training and support to improve institutional capacity of state institutions in the non-traditional exports sector and (c) support to individual enterprises in horticulture. Under the TIP programme, foreign exchange control measures requiring NTE exporters to surrender part of their foreign exchange earnings were totally abolished (Laryea and Akuoni, 2012:20) and exporters in the pineapple industry were encouraged to come together to form the Sea Freight Pineapple Exporters of Ghana (SPEG).

Trade and Investment Reform Programme (TIRP): This was a continuation of the TIP programme, but it had a greater focus on private enterprise performance. It was implemented by AMEX International and a consortium including Technoserve and CARE

[119] The Farmapine company discussed in Section 6.2.2 is an outcome of this programme.

International from 1998 to 2004. Funding of $60million was provided by USAID. The focus on the private sector was to increase the capacity of business associations and link small farmers into export production and marketing. A notable impact of the programme was the identification of processing opportunities in the pineapple sector, leading to the establishment of Blue Skies Company in Ghana (Whitfield, 2010b:14)

Agricultural Services Support Investment Program (AgSSIP) - Horticulture Exports Industry Initiative (HEII)

In 1993, the Agricultural Sector Investment Program (ASIP) by the World Bank focused on collaboration with the private sector. However, a report by Voisard and Jaeger in 2003, commissioned by the World Bank to evaluate the horticulture sector in Ghana, necessitated a restructure of the program. The Agricultural Services Support Investment Program (AgSSIP) HEII component had infrastructure development as its key focus. AgSSIP was implemented by the Horticultural Development Unit (HDU) in MoFA from 2004 to 2006 with a US$9.5million funding from the World Bank's IDA credit. Though targeted at the horticulture sector, the main activities under this programme were geared at the pineapple sector and included:

- Improvements to infrastructure used for shipments of pineapple (Shed 9 at the Tema port). This included the installation of cold storage facilities at the shed.
- Construction of a perishable cargo centre at the international airport.
- Sourcing and development of MD2 cultivars for distribution to farmers.
- Construction of packing sheds for smallholders and exporters in order to consolidate exports.
- Provision of strategic support to participants i.e. stakeholders and smallholders in order to promote integration.
- Research and development.
- Food safety and quality management training, including pesticide regulations, certification and Good Agricultural Practices.

Trade and Investment Program for a Competitive Export Economy (TIPCEE): This was a five year (2004-2009) US$30million project funded by the USAID. Its main objective was 'to promote economic growth by enhancing productivity and sales of non-traditional agricultural exports and improving the enabling environment for private sector growth'

(USAID, 2009:2). It was implemented by a Chemonics consortium including CARE International and TechnoServe Ghana.

Shortcomings of sector-specific interventions

Over the years, development agencies and the MoFA implemented a number of programmes aimed at improving infrastructure, skills, access to credit and market linkages of horticulture producers. However, the outcomes were of very limited success especially with regards to the main horticulture product, pineapple. From this, it can be concluded that the incorporation of the horticulture sector into the development plans of the country was not done strategically. The interventions rolled out in the horticulture sector did not really address the issues at the heart of the industry; finance and infrastructure. To a limited extent, the interventions had managed to provide business management skills and some research and development; but, overall, the interventions were not strategic and had rather played 'catch up' as the horticulture sector, and especially the pineapple sector, advanced economically.

Whitfield (2011) is of the view that interventions in the pineapple sector have been mostly donor driven because of the inability of the ruling elite to extract political rent from it, unlike, for example, in the timber sector. This suggests that as the sector moved into a phase requiring long-term capital investments, the non-alignment of pineapple exporters to any political interests meant that there was little political capital to gain from building up the sector. This may be true: however, it would also appear that the state dogmatically pursued its vision of private sector led development in agriculture without ensuring that an enabling business environment generally prevailed.

From the mid-1990s, the pineapple sector was achieving considerable export volumes. The key issues in the sector no longer related to how to increase export volumes; but rather policy, infrastructure and investment to increase and maintain the quality of fruits exported in terms of consistency in size, shape and taste. The interventions implemented achieved some of the aims and made improvements in the sector; but the key factors necessary for developing competitive advantages were not given the necessary attention until the mid-2000s when the MD2 variety had made significant inroads to effectively erode the comparative cost advantages of Ghana's pineapple exports. The following are some of the reasons why the pineapple sector was largely left untouched.

a) Lack of political commitment: Despite the rhetoric of export diversification, the interests of the ruling elite were not in alignment with the interests of the pineapple sector (Whitfield, 2010b; 2011). According to Whitfield (2011), apart from the HDU lacking funds, the unit lacked influence in the MoFA, as only one of the four chief directors was in support of horticulture. Further proof of lack of state interest or support is found in reviewing the annual budget statements which set out the government's economic policy for the entire year. From 1990 to 2003, there was hardly any mention of horticulture. This is in comparison with the cocoa sector, which in every year's budget continued to receive direct and indirect support from the state. In the 2004 budget statement, horticulture featured prominently, most likely because of the HEII focus on acquiring MD2 cultivars for the sector.

b) Lack of funding: Macroeconomic instability in the early 1990s, because of the government's expansionary policies in 1992, meant that the economy suffered from high inflation rates (between 30-40%), real exchange rate appreciation and high interest rates (World Bank, 2001a; Leith and Söderling, 2003).[120] Consequently (i) the government was unable to provide its part of funding for projects. The HDU, for example, was never adequately financed and depended greatly on donor projects to carry out its objectives (ii) the primacy of the private sector as the medium for export promotion and diversification could not be achieved because the private sector was unable to access funding, while those that managed to do so had much difficulties (World Bank, 2001b:5).

c) Interventions carried out in the sector focused on donor objectives (World Bank, 2001b; Korboe, 2011). It was the objective of donor assisted projects to increase diversification of NTEs; hence the number of producers and volume of output was what was focused on. For example, TIP had an objective of decreasing the share of the 12 leading non-traditional exports from 85% to 70% by the end of the project (USAID, n.d). Hence, assistance to private sector groups under the project was said to be spread over a wide number of products. This made it unable to devote enough resources for investment in a specific group (USAID, 2003:63). A dissertation by Korboe (2011) on the impact of development (donor) agencies interventions in the pineapple sector research found that USAID donor support in

[120] In 1992, the country transitioned from military rule to democratic rule. President J.J. Rawlings, who was the military government leader, won the first general elections held in 1992.

the horticulture sector was geared to fit into '… their overall development objectives using experience gleaned from other regions and not specifically tailor made to meet our peculiar environment' (Korboe, 2011:49). Though donors generally agreed that interventions had to be in line with the sectoral policy governing agriculture, donors emphasized different aspects of the policy, because they have different interests and areas which are usually determined by policymakers outside the country.

d) Lack of organisational interaction: USAID (2003:9) for example, found that the TIRP had no formal mechanism in place for coordinating with other organisations playing a role in trade and investment. It was not until the MD2 threat that collaboration between the industry, development partners and the research institutions occurred. For example, a tissue culture plant (Bioplantlet Ghana Limited) was established as a joint venture between SPEG, the Ghana Export Promotion Council, the Biotechnology and Nuclear Agriculture Research Institute (BNARI) and the Ghana Atomic Energy Commission (GAEC) with support from the USAID.

e) Financial Intermediation targets were not met by the interventions. These targets were premised on a stable macroeconomic environment. However, with instability in the nation's finances, e.g. high government borrowing, inflation, depreciation of the Cedi, negative feedbacks were transmitted to financial institutions, which then resorted to less risky lending to the government rather than the private sector. The government thus crowded out the private sector (USAID, 2003:62).

Horizontal cooperation among exporters: Effective coordination of value chains requires cooperation among chain actors, and cooperative behaviour is driven by a common goal. The high transaction costs in the chain could be minimised with the creation of incentives for asset specific investments. Horizontal coordination is one way to do this (Poulton and Lyne, 2009: 158). Unfortunately, Ghanaian exporters could not seem to find a common goal to coalesce around. HAG, made up of relatively small exporters, was dominated by rivalry between the two largest exporters and this undermined their ability to cooperate (Whitfield, 2011:29). SPEG, which was composed of relatively larger exporters, only seemed to cooperate on the transportation of produce. Non-cooperative behaviour is historic among Ghanaian producers and buyers (Section 6.2.3.3), but Whitfield (2012)

attributes the lack of horizontal coordination to the mind-set of entrepreneurs who first engaged in the sector. She states: 'The early investors who became the key industry actors in the 1990s are described by some industry observers as 'cowboys' practicing a form of 'bootstrap entrepreneurship'. They zapped up opportunities, but they were individualistic in their approach and short term in their outlook. Business was good for them individually, and the expectations and standards of business success in Ghana were very low; pineapple exporters saw themselves as doing well by Ghanaian standards, which led to complacency. Lastly, a large portion of pineapple exporters sought mainly to make quick money in hard currency' (Whitfield, 2012:315).

In my view, this is true: but, in addition, the inability of exporters to source supplies to meet their small volumes also further influenced the behaviour of lack of cooperation. So long as demand existed and supply could meet this demand, each exporter acted individualistically. During the study's field work interviews, a respondent revealed that exporters greatly mistrusted each other because they '*viewed each other as rivals.'* An intense rivalry underlined by price competition meant that any form of cooperation or sharing information was tantamount to giving out your trade secrets. An exporter interviewed in the study commented: *'People will find out who you sell to and will go behind you to offer fruits at a much lower price.'* It is interesting that exporters did not realise that they could provide a united front to bargain for better or stable prices which would be beneficial for all of them.

The inability to cooperate had implications for (a) the ability of exporters to institute a sector-wide quality system which would have forced producers and exporters of low quality fruits to either upgrade or exit the chain and (b) their ability as a group to pressure government to improve the functioning of the entire value chain.

6.5 Outcomes of the Smooth Cayenne exchange configuration

Transactions in the Ghanaian chain were basically governed by price (i.e. market form of governance) and the form and content of transactions discussed above had a significant negative impact on the development of the chain, especially its ability to guarantee reliable supply, improve upon the quality of fruits, foster learning and knowledge transfers and balance the allocation of risks.

An outcome of the general prevalence of opportunistic behaviour and the lack of

knowledge on acreage under cultivation was an increase in the unreliability in both the quantity and quality of supplies. This impacted on the ability of Ghanaian exporters to access the high quality-high price market i.e. supermarkets.[121] On top of low prices, buyers in the low quality-low price segment had erratic demand. Nonetheless, Ghanaian exporters continued to participate in this segment to gain market entry or retain their market share (World Bank, 1990:12).

To keep their market share, exporters marketed their produce on consignment (spot market) basis. Marketing on consignment basis involved buyers making payment after the produce had arrived, been verified as meeting the buyer's quality standards, accepted by the buyer and sold on the market. Exporters used sales agents located in Europe who indicated (a) the final selling price (b) the quantity discarded due to low or poor quality and (c) the expenses made for quality inspection, labelling, storing, and trucking (AfDB, 2005:12; Fieldwork interview, 2013). After the fruits have been sold, the buyer (retailer/wholesaler) deducts his costs and commission and the remainder is paid to the exporter (TAC, 2004:73).[122]

Improvements in quality partly depend on income flows (prompt payment and stability of prices). The consignment basis of payment implied that an exporter's funds are tied up with the buyer until the goods are sold and then payment is made. In some cases, exporters could wait for up to 3 months or more before they were paid (Takane, 2004). Also, since exporters were price takers, they were forced to accept any price given to them by the buyer. Unstable income flows further entrenched the perception that agriculture is risky, thus affecting the ability of exporters and farmers to access finance to make the necessary quality improvements.

Strong contractual relations in the chain could have: (a) smoothened income flows by offering guaranteed prices (b) promoted the reliability of supplies (c) reduced opportunistic behaviour and (d) encouraged investment and knowledge transfer to smallholders. Reliability of supplies and reduction in opportunistic behaviour would likely have opened up new export markets, which then allow exporters to increase their volumes and diversify risks. Poulton and Lyne (2009:158) note that, although power relations play out in negotiating the form and content of contracts, a contract may provide benefits to both

[121] This is not to say that all Ghanaian exporters were not accessing the high-priced market but rather most were not.

[122] The sales agents charged a commission of between 5% and 7% of the net selling price (AfDB, 2005:12)

parties which go beyond the minimisation of transaction costs. This was applicable in the Ghanaian chain as strong contractual relations would have negatively impacted on the ability of both exporters and farmers to use a contract as a risk management tool. For example, Sexton and Jarvis (2011) in their study of the Ghanaian pineapple sector found that exporters who also contracted with smallholders were usually more efficient at producing pineapples themselves but by engaging in contractual relations with smallholders they could transfer risks they faced in relation to buyers (importers). The strategies pursued by both exporters and smallholders to minimise or deflect risk fed back into the chain and further deteriorated the chain's competitiveness.

6.6 Comparative Case: Costa Rica's pineapple industry (the 1980s to early 2000s)

In comparison, although the Costa Rican pineapple chain started with local conditions similar to Ghana's; for example, promotion of NTEs for export diversification and participation of smallholders (section 4.2.3.2), the chain was more formally organised and embedded in a network of relations. Hence, apart from the revolutionary role played by Del Monte, the role played by agricultural policies and organisations at the regional and national levels must be emphasised.[123]

From 1982 to 1988, the value of pineapple exports grew to more than US$31million, up from US$1million (USAID, 1989:36). The decisive role of MAG and CINDE especially in providing technical assistance to smallholders enhanced access to markets and information (see section 4.2.3.2). Smallholders were given guidance on the application of fertilisers (den Daas, 1993:7) and CINDE regularly provided training to exporters on technology, marketing and quality control (Clark, 1995:183).[124] Also, the absorptive capacity of the chain was boosted by knowledge gained from participating in the global banana value chain. This certainly enabled them to easily transfer knowledge to pineapple producers (Incae, 1989:6).

Just like in the Ghanaian sector, small producers had difficulty accessing finance because of

[123] Clark (1995:205) notes that 'the initiation of Costa Rica's non-traditional export program coincided exactly with the establishment of the Caribbean Basin Initiative (CBI) in the United States. Indeed, President Reagan intended this Initiative to foster political stability in the Caribbean region through stimulating economic growth via the establishment of new export industries.'

[124] Small and medium scale producers in the North Atlantic Zone however complained about not having sufficient knowledge regarding fertiliser application protocols (Jansen et al., 1996:30). This can be attributed to the fact that producers in this zone were new to pineapple production.

high interest rates and the need to provide collateral, in certain cases for up to 80% of production value (Hansen-Kuhn, 1993; Aragón and Kreyns, 1994). However, this problem was solved with finance provided by the governments of Canada, Germany, Netherlands, Spain and Norway for organized producers to access medium-term loans at low interest rates (Aragón and Kreyns, 1994:6, 10).

The local production structure also played a role in the distribution of risks. In Costa Rica, there were organised systems for marketing fruits, including pineapple. Fresh fruits and vegetables could be marketed in a number of ways on the domestic market. One was the wholesale market known as CENADA (Cenri Nacional de Abastecimiento y disribucion de Alimentos) and the other Feria. CENADA had a well-developed infrastructure, including the daily publication of maximum, minimum and average prices for products, and publication of reports on market trends (Jansen et al., 1994:46). In this market, there was a fixed selling price for all the products and wholesalers and producers developed well-established relations (Jansen et al., 1996:47). However, it had the disadvantage of the producer having to bear the transportation costs to the market and the likelihood of receiving a low price for fruits in times of over supply (Jansen et al., 1996:47). The Feria is a farmers' market, dominated by middlemen (den Daas, 1993; Jansen et al, 1996). Prices of pineapples sold on the Feria were twice as high as on the CENADA; however, the quantity sold on the Feria was much lower (den Daas, 1993).

For the export sector, on the other hand, marketing of pineapple fruits was done by large producers or intermediaries known as Packers. In the beginning, small and medium producers could expect their produce to be sold at prices between what existed on the CENADA and Feria. Small and medium producers signed long term written contracts with large producers, such as PINDECO and Tico Fruits. These contracts had conditions like: (a) agreeing to produce only pineapple (b) selling only to the contracting firm and (c) not to sell, rent or mortgage land during the contract period (Hansen-Kuhn, 1993:13). The weight, colour and condition of the crown determined fruit quality (den Daas, 1993; 10). Fruits for exports were generally classified according to their weight. Class A refers to fruit sizes greater than 1.5kg, Class B between 1.1 and 1.5kg and class C between 0.9 and 1.1kg (den Daas, 1993:10). Preferred fruit sizes for export were between 0.9 and 1.3 kg (den Daas, 1993).

6.7 Concluding Remarks

In this chapter, I show the importance of local conditions in shaping local actors' engagement with each other and in their ability to effectively participate and benefit from the global pineapple value chain. Even though Ghanaian exporters and producers were integrated into the low end of the value chain, they needed to maintain a minimum quality threshold and consistency in supplies to effectively participate in the value chain. Given the relatively high income to be earned, low costs of entry, low production costs and history of cultivation of Smooth Cayenne, smallholder participation in the chain was dominant. However, transaction costs were high due to the production structure and information asymmetry. Such costs necessitated a form of coordination which involved closer relations between smallholders and exporters, but local conditions prevented this from happening.

A dearth of information relating to quantity and quality requirements persisted in the chain. There was therefore the need for information dissemination in order to reduce risks and uncertainties. A reduction in risks and uncertainties would have translated into incentives which would positively impact the competitiveness of the chain. Sadly, both exporters and smallholders failed to perceive that they were dependent on each other, and thus needed to forge a common goal. The sourcing of fruits mainly through oral or unwritten contracts, which provided no support in the form of technical assistance, finance or inputs to smallholders, encouraged opportunistic behaviour by both parties. The outcomes of interactions fed back into the system to perpetuate inefficiencies.

The actions or interventions of two other key actors could have impacted chain governance. First was the government. To the extent that entrepreneurs took up the challenge to produce and export pineapple, the government could have played a more facilitating role. Although government policies incentivised entry into the chain, mainly through economy-wide incentives, policies targeted at the chain should have evolved to facilitate exporter innovation as the export volumes blossomed. A more holistic approach to NTE promotion was required. Government investment in sector-wide infrastructure would likely have had an impact on exporters' on-farm infrastructure and in smallholder farms. Conducting research and disseminating knowledge to farmers would have increased smallholders' capabilities and provided an incentive for exporters to establish more stable relations with them. The Costa Rican government, which established and pursued a

coherent and structured programme, presented a sharp contrast to the Ghanaian case. Second was the exporter association. Horizontal cooperation would have assisted with successfully lobbying government, as well as establishing sector-wide quality and contract enforcement mechanisms.

On the global market, demand for Smooth Cayenne began to fall in 1999 because Del Monte, with its lower costs and superior organisational skills, was offering MD2 at 'a better price/quality ratio' (Whitfield, 2010b:28). Even though exports from Cote d'Ivoire had begun to decline from 1995 (Section 4.2.3) and this most likely helped with Ghana's rise, the impact of local conditions on chain actors reinforced the country's image as a supplier of low quality fruits. When the Smooth Cayenne market completely collapsed in 2005 and the application of standards favoured tighter coordination between buyers and suppliers, the Ghanaian chain was substantially impacted. The impact of global governance on the characteristics of the item exchanged in the Ghanaian chain; and the role of local conditions in negotiating or mediating the impact is discussed in Chapter 7.

Chapter 7 The MD2 Exchange Configuration

7.1 Introduction

The MD2 innovation and global standards raised challenges and opportunities for all suppliers in the global pineapple market. For suppliers in the Ghanaian chain, it presented major challenges because of the way they were embedded in local conditions. In overcoming the challenges and taking advantage of opportunities, there has been a transformation of the governance of the chain from market to hierarchical and/or captive governance.

This chapter of the thesis investigates how actors in the Ghanaian chain actually engaged with the new rules of participation imposed by lead firms. Instead of accounting for a change in governance through the lens of the characteristics of the transaction at the global level only (as the GVC framework does); I do so by focusing attention on how the global forces of change impacted certain characteristics of the local exchange configuration and subsequently affected the form and content of transactions in the chain. By doing so, I broaden the understanding of governance to include the power or influence of local conditions (individually and in combination with each other), which actively shape governance in value chains through their impact on the characteristics of suppliers and suppliers' interactions.

How the local chain responded to the exogenous forces of change is analysed in two parts. The first is the immediate period (2005-2008) following the conversion to the MD2 variety; and the second is the period from 2009 to 2013. The analysis for the second period is mainly done using information gathered from fieldwork interviews (carried out from mid-May to mid-November 2013), personal conversations with value chain participants and industry experts and secondary data. The words producer-exporter, exporter and exporting firm are used interchangeably and also smallholder and small scale producer. Although MD2 is the main variety exported, included in the discussions in this chapter are exports of the Smooth Cayenne and Sugar Loaf varieties. As mentioned in Chapter 5, typically, pineapple farmers in the Akwapim South District (Eastern Region) cultivate all three varieties, while those in the Ekumfi District (Central Region) cultivate only the Sugar Loaf variety.

This chapter is organised as follows: the first section provides an overview of the initial response of Ghanaian exporters to the threat of the MD2 innovation. The second section

identifies the forces of change (both endogenous and exogenous) which influenced the restructuring of the chain. In the third section, changes in the characteristics of the item exchanged, due to the influence of the exogenous forces of change, are detailed. The fourth and fifth sections focus on the strategies and tactics of internal (endogenous) chain actors in relation to the changed characteristics of the item exchanged, and how their actions impacted the form and content of transactions in the chain in the period 2005 to 2008. Based mainly on the study's fieldwork (see Chapter 5), the sixth and seventh sections discuss the current form and content of transactions (2009-2013) and their developmental impact on the chain. A summary of the impact of the interaction of the exogenous forces of change with the local chain concludes the chapter in the eighth section.

7.2 The decision to convert to MD2

The inroads made by MD2 on the EU market led to two choices for Ghanaian exporters; diversify to MD2 or continue producing Smooth Cayenne. Even though some exporters had begun efforts to diversify to MD2 in the early 2000s (Voisard and Jaeger, 2003), most Ghanaian exporters did not think of doing so until the demand for Smooth Cayenne suddenly and totally collapsed in 2005 (Whitfield, 2012). Prior to 2005, some European importers had been unable to participate in the MD2 market because of the premium MD2 was earning. With the resolution of the patent dispute this premium drastically declined as supplies increased (Jaeger, 2008; Whitfield, 2010a; Whitfield, 2012).

Reacting to changes takes time and usually involves a three-stage learning process: (a) identifying that an opportunity exists to participate in the chain and then making the decision to exploit it; (b) procuring the necessary raw materials; and (c) being efficient in production by accessing the required knowledge and infrastructure (Whitfield, 2010b). The response of the Ghanaian chain (strategies and tactics of exporters, the state, development agencies) to (a) is discussed in this section while the responses to (b) and (c) are discussed in section 7.5.

The initial prevalent perception or view among Ghanaian exporters, despite the major advances being made by MD2, was that they could maintain and even increase their market share by continuing to export Smooth Cayenne (Whitfield 2010a; Fieldwork Interviews, 2013; Personal conversation, 2016). To have confidence in this view, an understanding of consumer demand was essential. A report by Sefa-Dedeh (2005) seemed to indicate that

Ghanaian exporters could still sustain trade in Smooth Cayenne: 'In an attempt to promote the sale of Ghanaian pineapples in the EU market consumer studies were conducted in 8 countries on sugar loaf, smooth cayenne and MD2 pineapples. While MD2 was found to be the preferred variety in one country, the smooth cayenne variety was preferred at the same rate as MD2 in 6 countries. In one country, smooth cayenne was preferred over MD2. The study showed that while Ghana looks at the introduction of MD2, the other varieties should not be abandoned' (Sefa-Dedeh, 2005:16). The report recommended that exporters either (a) promote a competitive strategy to continue Smooth Cayenne exports while learning MD2 production protocols or (b) convert to MD2 production (Personal conversation, 2016).

Unsurprisingly, Ghanaian exporters lacked a competitive strategy to succeed. Kay (2014:3) defines a competitive strategy as 'trying to achieve some kind of advantage over competitors...this generally involves trying to achieve some form of cost or differentiation advantage over competitors' with a successful strategy based on a 'unique source of advantage.' There seemed to have been no effort made to come together to coordinate efforts, if any, at maintaining their Smooth Cayenne market share.

The persistence of lack of cooperation, although there had been significant changes in the characteristics of the item concerned, could be attributed to the fact that there was no clear leader in the chain. The majority of exporters were all relatively small and exporting low volumes. Also, established exporters had the volumes to meet Smooth Cayenne demand and thus continued to behave individualistically (Personal conversation, 2016). One may wonder why SPEG as an association did not present a unified strategy. Jaeger (2008:151) notes that 'trade associations can be powerful, but only when the members need them.' A report on the TIRP project indicated that exporters, especially in the fruit and vegetable industry, do not share information on trends, practices or opportunities with their association (USAID, 2003:38). Thus, for an association that depended on financial contributions by its members to operate, it is possible that the information and knowledge capabilities of the association were limited. In reference to the way exporters handled the situation, a respondent commented: *'We were not proactive. When I sit back now, I realise that we could have done it more professionally than how we did it because there were signs on the wall in the late 1990s but we thought, oh, this could not be something that could put us off-ground, but it did happen. All of a sudden we lost our market share in the EU*' (Fieldwork interview, 2013).

7.3 Main forces of change in the Ghanaian pineapple value chain

From 2005, retailers in the global pineapple value chain began demanding the MD2 variety from Ghanaian exporters while also specifying the way it was to be produced (Table 7.1). The GLOBALG.A.P. standard is the minimum standard applied: but other retailer-specific standards and requirements, for example, a consistent supply of high quality fruits at short notice and reliability of delivery, are also applied. GLOBALG.A.P. is both a risk management standard and a product differentiation standard (see section 4.3.1); focused on both food safety and process attributes such as worker rights. Another standard which applies to all exporter packhouses and processing firms is the HACCP. The adoption of MD2 and standards entailed significant production, knowledge and infrastructure costs which had consequences for how transactions were governed in the Ghanaian chain. Endogenous chain actors must respond to exogenous forces of change. Hence, their strategies and tactics also influence the governance of the chain (Table 7.1).

Table 7.1: Specific institutional change forces in the MD2 configuration

	Endogenous	**Exogenous**
Intended	Individual and corporate decisions by exporters, farmers and processors (e.g. investments in infrastructure, knowledge acquisition and transfer) Policy, strategies and tactics by the government and development (donor) agencies	MD2 innovation Introduction of product and process standards by international fruit and vegetable retailers
Unintended	Feedbacks from decisions taken by actors above	None

Source: Author

7.4 Changes in the characteristics of the item exchanged (product characteristics)

The first aspect of the Ghanaian pineapple exchange configuration which was impacted by the exogenous intended forces of change identified in Table 7.1 was the characteristics of pineapple required from Ghanaian farmers and exporters. No longer was the aesthetic

characteristics of pineapple (Section 6.2.1), its most important attributes, but rather more intangible attributes such as traceability and low levels of pesticide use.[125]

Both forces of change increased asset-specificity in the chain. On one hand, MD2 led to an increase in human asset specificity (investments to be made in upgrading the knowledge of producers) because it required Ghanaian smallholders and exporters to learn to grow pineapple under agronomic practices different from what they were used to before. In fact, the World Bank (2011a: 125) states, 'MD2 was found to be a more sensitive crop requiring better production management, careful harvesting, and rapid cooling within one to three hours of harvesting.'

The application of product and process standards further increased physical and intangible asset specificity by requiring investments in infrastructure, packaging and a reputation for producing and exporting comparatively high quality fruits. Other retailer-specific requirements, e.g. the adoption of JIT practices by retailers, piled on the pressure by increasing temporal asset specificity.[126]

7.5 Negotiating the (re)integration of the Ghanaian chain into the global chain (2005-2008)

Henson and Jaffee (2008) and Selwyn (2008) note that local conditions to an extent determine the ability of a country or firms to integrate into or maintain their position in a value chain. The local conditions (economic, political, technological, social, organisational) influence how and who responds to global changes. In this section, I detail the strategies and tactics of Ghanaian chain actors from 2005 to 2008. These responses impacted market access and participation, production relations and the organisation of producers; and had a further impact on the chain from 2009 to 2013.

7.5.1 Procurement of planting materials

After deciding to move to MD2 production, the first challenge to exporters was how to access the raw material, i.e. MD2 suckers. Pineapple reproduction is done using the crown,

[125] In 2001, the EU reduced the MRL for ethephon, the chemical used in 'forcing' pineapples, from 2mg/kg to 0.5mg/kg. Shortly after, it was discovered that a shipment of pineapple fruits from Ghana had MRL exceeding the minimum stipulated (Gogoe, Dekpor and Williamson, 2001).

[126] Temporal asset specificity is usually linked with perishability. However, it is increased in cases where there is a possible time lag between production and delivery especially when 'prompt performance is critical' (Masten, Meehan and Synder, 1991:9).

slips or the suckers. The sucker (or the shoot) is the new plant found between the leaves of the mature pineapple on the mother plant. The slips are located at the base of the fruit, and the crown is at the leafy top of the plant. The suckers are the most preferred method of propagation (Sauls, 1998; Department of Tropical Plant and Soil Sciences, 2002) because sucker-grown plants usually fruit earliest at around 16 months, slips may take 24 months and a crown can take up to 28 months (Sauls, 1998).

In the Smooth Cayenne configuration, suckers were freely available from producers' own farms or others at the cost of US$0.01-US$0.06 (World Bank, 2011a: 125). MD2 suckers on the other hand had to be sourced from outside the country. The cost of sourcing suckers was exorbitant and unaffordable to many. Individually, most exporters were financially constrained due to low profit margins and local conditions (Chapter 6); hence procurement was a challenge. One exporter, BFL, reportedly purchased suckers at the cost of US$1.5 million (NRI, 2010, Section B, p.21). It survived the industry crisis and currently has a 15% share of the Ghanaian fresh pineapple export market.

The government and development agencies also made strategic moves to influence the ability of exporters and farmers to convert to MD2 production. In the 2004 national budget, the government made available a grant of US$2million to finance the provision of MD2 suckers to producers (MoFEP, 2004:218). The action of government, which formerly had seemed oblivious to the problems of the chain, could have stemmed from concerns about government revenue; 'government is worried about this development because of the significant contribution of the pineapple sector to Ghana's non-traditional exports…' (MoFEP, 2004:218). Also, smallholders were the dominant producers in the chain and agricultural development policies extensively stressed smallholder production as a means of poverty reduction.

The change in the characteristic of the item also impacted the interaction between the indirect internal actors of the chain. For example, to make more suckers available, the government in collaboration with exporters, research institutions and development agencies, constructed a tissue culture laboratory. The laboratory was completed in 2006 and began propagation of MD2 cultivars (MoFEP, 2006: 88,139). However, the propagation process was costly and could not be quickly done to satisfy the growing and urgent demand; so another propagation method known as gouging was also implemented (Pine News, May 2007:2-3). The gouging method led to defects in the suckers including multiple

crowns and spiny leaves (Pine News, May 2007: 2-3), possibly decreasing the number of suckers available for cultivation.

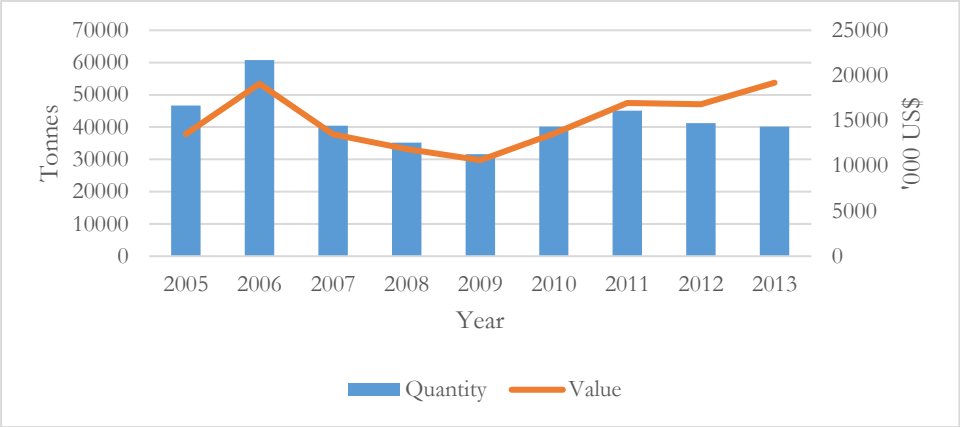
7.5.2 Accessing knowledge and infrastructure

Bridging knowledge gaps is also essential to participation in the global chain (Selwyn, 2008). Aside the costs of procuring suckers, the agronomic needs of MD2 were different from that of Smooth Cayenne (Fieldwork Interviews, 2013). For example, the process of inducing MD2 plants to flower is different from that of Smooth Cayenne (USAID, 2009:17). MD2 is also more prone to the Phytophthora disease than Smooth Cayenne hence a chain used to cultivating Smooth Cayenne would initially struggle with producing quality MD2 fruits. To overcome knowledge gaps, exporters need to bear some costs. Since MD2 was a new variety, expertise in producing the crop was lacking (COLEACP, 2005). Producer-exporters who were relatively financially better off acquired knowledge on production processes by bringing in experts from Costa Rica (Whitfield, 2010b; Fieldwork Interviews, 2013).

The NRI (2010) notes that the total volume of fruit exported from 2005 – 2007 (Figure 7.1) hide the true extent of decline of the chain. One must bear in mind that MD2 was 'manufactured' for a particular climatic condition and so anyone else cultivating it had to adapt it to the specific locality. In 2007, GEL was responsible for as much as 15,000 tonnes of export volume (World Bank, 2011a:13), representing 37% of the total amount exported: but even GEL, a subsidiary of an MNC, struggled to learn how to cultivate quality MD2 fruits in the Ghanaian climate Whitfield (2012:316-317). Producer-exporters cultivated MD2 largely on trial and error basis and ended up losing much of their working capital (Whitfield, 2010b:31).[127]

[127] Although currently the knowledge base of producers has increased, reliance on experts from outside the country still goes on from time to time. One producer-exporter at the time of this study's fieldwork had employed an expert from Costa Rica because of problems with the flowering of pineapple plants (Fieldwork Interviews, 2013).

Figure 7.1: Ghana's pineapple exports by quantity and value (2005-2013)



Note: 2005-2012 data from MoFA (2013a), 2013 data from Trade Map

Source: MoFA (2013a) and Trade Map, International Trade Centre www.intracen.org/marketanalysis

Unlike in the case of Smooth Cayenne where producers could get away with lax agronomic practices (Whitfield, 2010b), MD2 requires the application of certain inputs e.g. fertiliser in a specific manner, specific quantity and at specific times, to consistently get good yields and high quality fruits: *'MD2 requires strict adherence to protocols of fertilisation. So, if it says you need NPK, Sulphate of Ammonia, every ten days or every two weeks, you make sure you provide it and at the right time and quantities till the end'* (Fieldwork Interview, 2013). An acre of pineapple consumes about 12 - 15 bags of fertiliser (COLEACP/PIP, 2011; Fieldwork Interviews, 2013) and '… each plant should receive exactly the same rate of fertiliser in order to obtain the most uniform fruit size, shape, weight, sugar content and nutrient content' (COLEACP/PIP, 2011:20). To know the right inputs and apply them in the right quantities requires that producers have a certain level of absorptive capacity. Given the low level educational characteristics of smallholders (and outgrowers), exporters were of the view that *'Outgrowers may not be able to meet statutory requirements or good agricultural processes'* (Fieldwork Interviews, 2013). To use smallholders, improvements in their skills must be made.

Both MD2 and standards application also required investments in physical infrastructure on and off-farm, supervision and monitoring of the entire production process in order to decrease information asymmetry and uncertainty. MD2 required investments in cold chain facilities and improvements in post-harvest management. Indeed, MD2's superior quality

over the other variables was partly attributed to the ability to keep it at the ideal temperature required for pineapples after harvest. In the work plan for the HEII programme, the author's remark; 'indeed, MD2's superior quality and sugar content is as much tributary to a continuous cold chain, efficient distribution and promotion than specific genetic characteristics' (GoG, 2004:5). Gogoe (2004) noted that over 50% of GLOBALG.A.P. protocols applied to the correct use of chemicals during crop production and post-harvest handling of the produce. At the national regulatory level, the Ghana Standards Board (GSB) oversees pesticide quality and residue analysis; however, its facilities were not adequate to conduct the needed analysis (World Bank 2011a).

The role of indirect internal actors was crucial to accessing knowledge and infrastructure. Development programmes proved constructive in integrating exporters and smallholders into the global chain; but, in some cases, delayed timing of programmes was responsible for the inability of some exporters and farmers to integrate into the chain. From the mid-2000s, the participation of development agencies evolved from the provision of incentives for private enterprises to participate in the market to investments in infrastructure and extension services, among others. The change in development agencies strategies can be attributed to the fact that, globally, it was thought that participation in a value chain was a tool for poverty reduction; thus, value chain development was key to the efforts of such organisations (Altenburg, 2007; Meyer-Stamer and Wältring, 2007; Humphrey and Navas-Alemán, 2010).[128]

Generally, development agencies' programmes had components targeted at (a) Enhancing Production and Productivity (b) Improvement in Infrastructure (c) Promotion of export marketing and (d) Farmer training among others (AfDB,2005; USAID, 2009; MiDA 2013). These programmes spanned the period 2004-2013 and made considerable investments in the chain. Examples of specific programmes targeted at the pineapple value chain from 2004 – 2013 included: (a) The USAID's TIPCEE project, 2004-2006 (see Chapter 6 for details). It had two main components; Enabling Environment (EE) and Export Business Development (EBD). (b) Market – Oriented Agriculture Programme (MOAP), 2004-2013, implemented by GIZ together with MoFA, was targeted at improving the competitiveness

[128] Wolter (2008:13) commenting on the Ghanaian horticulture sector noted: 'The horticultural sector has emerged as a favourite target of donors and the GoG. The examination of several large projects reveals that donors are increasingly taking a value chain approach and trying to link smallholder farmers to exporters via outgrower schemes.'

of actors in the agriculture sector on the national, regional and international market. [129] It focused on the promotion of selected value chains including the sugar loaf pineapple chain in the Central Region of Ghana. It also supported both public sector and private sector organisations involved in agriculture. (c) Export Marketing and Quality Awareness Programme (EMAQP), 2007-2011. The US$28.4million EMAQP, financed by the government of Ghana and the African Development Bank (AfDB) was the successor to the HEII programme with the overall objective to 'improve quality, increase quantity and build confidence in the agriculture export sector ' (AfDB, 2005:2). Among its specific aims was to increase the volume of MD2 suckers to farmers and (d) The Millennium Challenge Account (MCA) compact programme, 2007-2012. The MCA compact programme by US's Millennium Challenge Corporation's (MCC) was a US$547million programme in three areas; transportation, rural development and agriculture. In the agricultural sector, it was to raise the incomes of farmers through the expansion of commercial agriculture among farmer based organisations (FBOs), improvement in credit services for investments on-farm and in the value chain and the provision of infrastructure, among others.

The EBD component of the TIPCEE programme proved key to improving the technological capabilities of both farmers and exporters in the pineapple sector during the MD2 crisis. It was at the forefront of making available MD2 suckers and disseminating knowledge on production processes to farmers. It taught them how to select suckers, about forcing and degreening of pineapples as well as cultural practices which would ensure high yields (USAID, 2009:10, 19).

The changed characteristics of the item exchanged also succeeded in changing the nature of interactions: (a) among development agencies and (b) between development agencies and the government. For example: The EMAQP as a successor to the HEII used the infrastructure that had been already built (Wolter, 2008); (b) TIPCEE and MOAP programmes collaborated to enable exporters participate in the Fruit Logistica trade fair in Germany (USAID, 2009); (c) MoFA, SPEG, GIZ, and TIPCEE assisted with the certification of farmer cooperatives (USAID, 2009:10); and (d) GIZ, in partnership with COLEACP, also assisted farmers become compliant with EU pesticide residue requirements (Danielou and Ravry, 2005:27).

[129] Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) was formerly known as the German Government Agency for International Co–operation (GTZ)

7.6 The form and content of transactions (2005-2008)

7.6.1 Scale of adoption of MD2

Availability of an input does not mean that it is affordable, and this was the case in the chain. The scale of adoption of MD2 was significantly reduced, by first, the cost of suckers and second the total costs of production. Although government and development agencies had made suckers available, the costs of acquiring the suckers were high. In fact, MD2 suckers were individually priced at between US$0.70 and US$0.80 (World Bank, 2011a; Fieldwork Interviews, 2013) compared with US$0.01-US$0.06 for Smooth Cayenne (World Bank, 2011a: 125). The challenges with local propagation of MD2 suckers and the high selling price led AfDB (2005:20) to state that 'the supply of suckers is still limited and cost-prohibitive, for the large majority of out-growers and other smallholders.' Furthermore, one new input, plastic mulch (Figure 7.2), increased the cost of production per acre by as much as US$300-400 (World Bank, 2011a:125). The brix level (sugar content) of MD2 is one of its selling points. The amount of moisture pineapples need during cultivation is critical in the development of the right brix level. In the Akwapim South District of Ghana, rainfall per annum is 1700mm and mean annual rainfall is 1250 mm per annum (MoFA, 2016), comparatively lower than the 3000-4000mm received in the Costa Rican producing areas (Tonjes, 1994; Eosta/ICCO, 2010). Inadequate rainfall and lack of irrigation on Ghanaian farms necessitated the use of plastic mulch.

Figure 7.2: Pineapple planted on beds covered with black plastic mulch

Source: Author (2013)

For the smallholder, the benefit of cultivating MD2 and participating in a stringent market was the potentially high income to be earned. All producers were required to make

improvements in on-farm infrastructure (e.g. construct toilets, chemical sheds), keep detailed accurate records of farm inputs and practices, use only agro-chemicals (i.e. fertilisers, pesticides, chemicals) which were authorised for the cultivation of fruits, among others[130]. These improvements were required for certification purposes. Certification costs can be grouped into two, recurring and non-recurring. Recurring costs are the yearly audit assessment costs which must be borne upfront, while non-recurring costs are investments in on-farm infrastructure such as toilets, chemical stores and upgrading of packhouses.[131] Henson and Jaffee (2008) suggest that certification costs are high in the short-term but in the medium to long term, they fall.

Table 7.2: Costs of GLOBALG.A.P. Certification by pineapple producers (2003-2004)

Type of operation	**Size (Acres)**	**Sales (US$)**	**Non-recurring costs (US$)**	**Recurring costs (US$/year)**
Outgrower	18	17,000	500	65
Outgrower	20	20,000	450	50
Outgrower	60	80,000	18,000	3,000
Producer-exporter	400	550,000	65,000	5,000
Producer-exporter	1500	1,400,000	75,000	13,000
Producer-exporter	1800	1,600,000	100,000	10,500

Source: OECD (2007:30)

In the short-term, the cost of making these improvements was high for smallholders and small exporters (Table 7.2).[132] Non-recurring costs were significant for smallholders and exporters who had already lost much of their working capital and were highly indebted since exporters had failed to turn up to either buy Smooth Cayenne fruits or pay them for supplies made (Jaeger, 2008; Fold and Gough, 2008; Whitfield, 2012). They were also not in the position to either access or afford credit from financial institutions. In addition, the Ghanaian chain had to bear an extra cost to bring in foreign certifiers as there was no

[130] Sourcing of approved fertilisers and chemicals in some cases meant that exporters had to import their own supplies from Europe.
[131] The time lag between the decision to comply and actual certification is approximately two years (OECD, 2007; Fieldwork interviews).
[132] Similarly, in Kenya the cost to a smallholder farmer meeting one aspect of GLOBALG.A.P. certification in 2006 represented as much as 11% of the farmer's annual income from production (Graffham, Karehu and MacGreggor, 2007)

approved local agency (OECD,2007:19).[133]

Small exporters also had problems adopting MD2. Small exporters with the Horticulture Association of Ghana (HAG) complained that 'some donors provide a lot of training but the members lack the resources to implement any of the knowledge gained from the training' (NRI, 2010:11).

Even if one can finance production, it is expected that the income earned will be commensurate with the effort made. However, in 2007 one MD2 sucker cost 3000 cedis (US$0.3) although the fruit was sold for 1700 cedis (US$0.17) (Fold and Gough, 2008:1693).[134] This served as a disincentive for smallholders to continue participating in the chain.

Generally, MD2 production costs were significantly higher for all producers but more so for the smallholder. The smallholder's total cost of producing MD2 was over 170% higher compared with the total cost of producing Smooth Cayenne (Table 7.3). Also, the per kg cost of production was much lower for large-scale producers (Table 7.3), suggesting that MD2 is more suited to large-scale commercial farming and requires a minimum level of economies of scale to be profitable. Hence, the NRI (2010: Section A, p.10) estimated that a smallholder required 16 hectares (40 acres) and outgrowers, a minimum of 54 hectares (133 acres) to be profitable.

[133] Currently, a local based company, SGS Ghana Ltd. is approved by GLOBALG.A.P. to carry out certification assessments.

[134] GHC1=US$0.9704 at the end of 2007 (BoG, 2008:15)

Table 7.3: Comparative Costs of per acre Smooth Cayenne production by a smallholder (in 2004) with that of MD2 for small and medium-scale producers[135]

	Smooth Cayenne	**MD-1**	**MD2-2**	**MD2-3**
Plant population	20,000	20,000	20,000	30,000
Exportable yield per kg	9,023	26,047	28,500	36,503
Labour costs (US$)	466	649	1,208	735
Input costs (US$)	531	2,595	1,976	2,168
Fixed cost (US$)	231	U115	Not given	141
Total cost (US$)	1,228	3,359	3,184	3,044
Cost per kg (US$)	0.14	0.13	0.11	0.08

Source: World Bank (2011a:124)

Despite the efforts made by development agencies (see section 7.5.3), the final report of the TIPCEE project, a project widely praised for its efforts in the pineapple export value chain, noted that while it achieved considerable success by making available MD2 suckers to as many as 7,000 smallholders (USAID, 2009), 'exporters did not pursue a growth strategy for the popular MD2 variety on the scale expected … many of the targeted exporters and growers, who formerly served the fresh-export market, now choose a lower-risk option with a vibrant fruit processing industry ' (USAID, 2009:3).

7.6.2 Production Relations and the exclusion of smallholders

In synthesizing research from over 40 case studies on how the restructuring of agri-food chains can include and benefit small producers, Vorley and Proctor (2008:12) note that key to the integration of small producers in a value chain are: (a) 'farmers who are trained, organized, empowered to deliver quantity and quality in a consistent and cost efficient way (b) a public sector with a conducive business environment including infrastructure, contract

[135] MD2-1, MD2-2, MD2-3 refer to the different types of producers. MD2-1 is a smallholder, MD2-2 is an outgrower and MD2-3 is a large grower.

enforcement mechanisms, financial intermediation (c) a receptive business sector.' Furthermore, there must be an actor who assists and connects or links small producers to firms or businesses.

The overarching goal of all the development programmes implemented in this period was the establishment of effective agriculture–industry linkages (AfDB, 2005; USAID, 2009). Contract farming is usually proposed as the way to integrate farmers into export value chains; but it must make business sense for exporters to contract with smallholders. Would integrating smallholders into the chain lead to competitiveness or decrease in operational costs? On the contrary, integrating smallholders into the chain would not have increased exporters' competitiveness or decreased their operational costs. Most exporters who managed to make the conversion to MD2 had relied on their little savings, but they needed more (Whitfield, 2010b:31). Access to and affordability of finance was however, still limited as lending rates to agriculture were still high (Table 7.4) and could be much higher for pineapple producers and exporters who had acquired debts from their inability to sell Smooth Cayenne and, in some cases, had failed to repay earlier loans given. The risk averse nature of financial institutions to invest in the chain had been boosted up a bit more.

Table 7.4: Bank Lending rates (minimum and maximum) in %, 2005-2009

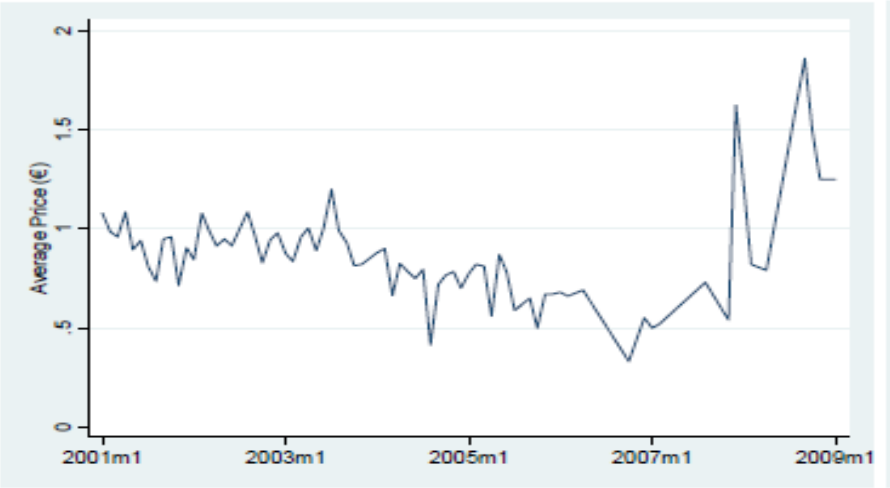
End of Period	Agriculture, Fishing and Forestry	Export Sector	Manufacturing Sector
2005	26.00 – 28.75	26.00 – 28.75	26.00 – 28.75
2006	24.25 – 26.00	24.25 – 26.00	24.25 – 26.00
2007	14.83-33.50	15.00 – 33.50	15.00 – 33.50
2008	23.75 – 27.25	23.75 – 27.25	24.25 – 27.25

Source: MoFA (2013a)

Also, Ghanaian exporters began exports of MD2 in 2006 (Pay, 2009). However, between 2006 and 2008, they faced the two challenges of low volumes and low prices (Gatune et al., 2013) which resulted in low incomes. Low volumes were due to their 'beginner' status in the chain while low prices were mainly because the quality of their fruits was lower than that of their competitors, as they were now learning the agronomics of the variety (ISH,

2007; Kleemann, 2011; Gatune et al., 2013). Although it is extremely challenging to access consistent and accurate data on wholesale prices of exported Ghanaian pineapples, Figure 7.3 shows that Ghanaian exporters received very low prices for their fruits, especially in 2007. Thus, although estimates of unmet demand for Ghanaian MD2 exports in 2007 amounted to 40,000 tonnes (GoG/World Bank, 2007:19), Ghanaian exporters were not in a position to offer a market opportunity to smallholders.

Figure 7.3: Average monthly wholesale prices of pineapples exported from Ghana (2001-2009)

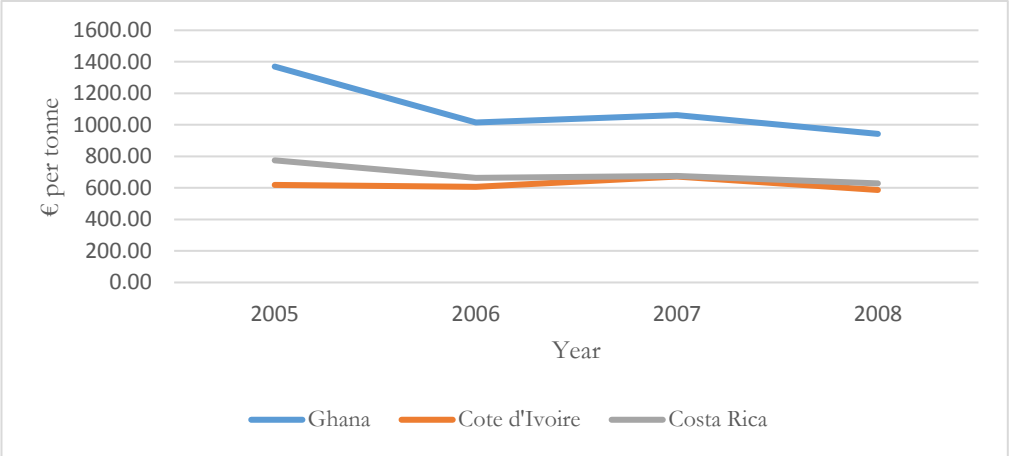


Source: Kleemann and Effenberger (2010:7)[136]

The majority of exporters who managed to survive in the global chain, between 2005 and 2008, did so because a significant portion of their exports were either Fairtrade or organic certified fruits (about 20%) earning a premium which was 20% higher than the conventional market price (World Bank, 2011a; NRI, 2010; Gatune et al.; 2013; Fieldwork Interviews, 2013). This ensured that exporters managed to stay in the value chain. Hence, Ghanaian pineapple exports to the EU had a higher unit value than their competitors, Costa Rica and Côte d'Ivoire (Figure 7.4).

[136] Based on price data extracted and complied by Linda Kleemann from International Trade Center (ICT) and other reports.

Figure 7.4: Unit value (€/tonne) of pineapple exports 2005-2008



Source: Author, based on Eurostat Comext (2016) data

Apart from the costs of production, the high level of mistrust between exporters and smallholders due to past experiences of opportunistic behaviour meant that a third-party had to establish a contractual linkage between exporters and smallholders. After the contractual relationship had become functional and structures to maintain it were in place, the two parties could be left to work on their own. Unfortunately, interventions by development agencies did not serve as an effective linkage between exporters and smallholders. Development agencies had greatly made available suckers and transferred knowledge to both parties in the hope that it was enough to encourage cooperation between the two parties. According to Ouma (2015:180), the TIPCEE and HEII projects were of the subjective perception that with the projects taking up 70-80% of the cost of suckers; smallholders would be able to reintegrate into the chain. However, according to USAID, 'TIPCEE underestimated the lack of trust within the private sector. The difficulty in finding win-win situations among exporters, among producers, and between producers and buyers was formidable, and continues to hinder development of the sector' (USAID, 2009:55).

It is difficult to say why the lack of trust in the chain was so entrenched. Nonetheless, in my view, the missing pieces to bridging the trust gap and integrating smallholders into the chain were the lack of contract enforcement mechanisms and financial conditions. Recall that the study's conceptual framework acknowledged three sources of trust; macro, meso and micro. Since meso and micro level sources were not applicable in the chain, macro level sources should have stepped in. However, this level of trust is harder to achieve in the

short-term. Without ways of ensuring that returns on investments are safeguarded, providing smallholders with suckers and knowledge on the production process were inadequate to entice producer-exporters to contract with them.

Indeed, efforts were made to provide finance to smallholders (Whitfield, 2010a). Such efforts, however, failed due to reasons including the timing of loan disbursements and the subjective belief that loans from projects aligned with governments are gifts or free money. A component of the MCA project was the Agricultural Credit Program (ACP). The project favoured working through FBOs with an average of 50 farmers. Farmers could only access the ACP fund after they had finished MiDA's Commercial Training Programme which included the presentation of a business plan to a participating financial institution for assessment (MCC, 2013:84).[137] Though this condition was well-intended, Whitfield (2010a:30) explains that the FBO model was not suited to pineapple farmers. Since most pineapple farmers were not part of any farmer group, they had to be combined with other farmers, e.g. food crop farmers in the same locality to form an FBO.[138] The financial needs of a pineapple farmer were much higher than that of a food crop farmer. Finance was provided by financial institutions which were participating in the ACP and bore 50% of risk default (MiDA, 2013:85). It is therefore possible that pineapple farmers who could have accessed the ACP if evaluated on their own merit or together with other pineapple farmers could not access the facility or accessed amounts lower than what would have made a significant difference in their operations.

Although the MCA programme started in 2007, smallholder pineapple producers were not able to access the ACP credit scheme until 2009. This was possibly due to organisational and operational problems faced by the scheme and its participating institutions, resulting in late disbursements of funds. In the programme's final report, it noted the following operational problems: (a) the lack of offices of the supervisory agent, the Bank of Ghana (BoG), in the areas where FBOs were located meant that there would be difficulties in collecting, validating and processing the reports of borrowers; (b) the BoG lacked adequate technical and supervising capacity in agriculture credit; (c) funds were disbursed to participating financial institutions, far in excess of what their balance sheets could absorb; and (d) the termination of the contract of one of the consultants in charge of the ACP

[137] A farmer classified as trained must have completed 50% of each of the two training sessions. An FBO classified as trained must have 80% of its members undergo the training (MiDA, 2013:29)

[138] Whitfield (2010a:30) claims that personnel involved with designing the FBO training programme admitted that horticulture producers should have been assessed under a different model.

credit scheme (MiDA, 2013:85-87). The scheme was back on track in mid-2009; but by then, exporters had already been exporting their own produce and did not re-establish market linkages with outgrowers and/or smallholders. Thus, it is very likely that smallholders who accessed funding in 2009 would not have a market for their produce in 2010 or 2011.

On the subjective perception of loans being free, a mid-term review of the MCA Ghana compact in 2011 stated: 'From the onset, most farmers believed that the money was free from the American government. Subsequently, when they realized that they will be given loans, they also believed that the only condition for securing the loans was by attending MiDA's sponsored training. When the farmers were again faced with the reality of meeting credit requirements (FBO business plans and credit worthiness) and a loan interest rate (32%) that is comparable to other commercial lending rates they were disappointed in MiDA' (IMPAQ, 2011: xiv). The subjective belief that money provided under projects aligned with government is free money lies in political patronage practised in Ghana.[139] The report goes on to identify this as one of the reasons why farmers joined FBOs (IMPA1, 2011: 19-21) and that 'No amount of sensitization has really changed this mindset for farmers' (IMPAQ, 2011:16).

With initial limited capital and skills, the increased financial outlays and skills required to produce MD2 to meet retailer's specifications put smallholders and outgrowers under serious threat. The choice of exporters to vertically integrate into production was due to a combination of the characteristics of the actors and the local conditions described above. By this choice, exporters gained control over fruit quality and reliability of supplies, the essential factors required in accessing the chain, maintaining or improving their position and also benefitting from the chain.

7.7 The form and content of transactions (2008-2013)

Currently, the MD2 exchange configuration in Ghana is characterised by captive and/or hierarchical governance. For most small and medium-scale producers, the impact of the new product characteristics on their participation in the chain were insurmountable. They had no other alternative than to quit the sector. Consequently, small and medium scale producers are virtually non-existent in the whole fruit (MD2 and Smooth Cayenne) export

[139] Political patronage refers to the practice of benefitting from supporting a particular government in power rather than on merit.

strand of the chain and production is concentrated among producer-exporters (Figure 5.1; Table 7.5).[140] In the processed pineapple strand of the chain, small and medium-scale producers participate as suppliers to large-scale and artisanal processors. Smallholders act as suppliers to producer-exporters only in the Sugar Loaf strand of the chain (Figure 5.1).

Currently, members of SPEG control over 90% of the Ghanaian pineapple export market. A look at the SPEG website in 2013 revealed a list of over 30 registered members. However, less than half of them consistently export pineapples throughout the year. Out of fourteen (14) exporters who consistently export throughout the year, eight (8) exporters account for 93% of export volumes (Gatune et al., 2013) and 41% of the 93% of exports are from two companies, GEL and BFL (Gatune et al., 2013; Fieldwork Interviews, 2013). Most of the small exporters who made up HAG have exited the sector.

Out of five producer-exporters interviewed in this study, only one indicated that it currently used outgrowers - 14 farmers picked and sponsored by a bank in Switzerland.[141] The exporter provides all inputs and forcing chemicals: packaging and harvesting are done by the company. Thus, 60% of produce is from the company's own farms, while 40% of produce is from the outgrowers (Fieldwork Interview, 2013).

Another exporter used to contract with outgrowers. After MD2 had been introduced, the MCA project supported the company's outgrowers to acquire the necessary skills of MD2 production. However, most the outgrowers were not successful due to the high capital outlays and husbandry skills required. The producer-exporter expressed the intention to bring on board the successful ones who still wanted to continue in the pineapple industry; however, he could not tell exactly when (Fieldwork Interview, 2013). Two other producer-exporters who were identified as contracting with a small number of smallholders declined participation in the study. In 2015, one exited the pineapple industry to grow a plant sweetener known as Stevia (Personal conversations with the exporter, 2015).

During the study's fieldwork interviews, efforts were made to assess whether exporters were likely to re-establish outgrower relations. The consensus among interviewees was that it was unlikely because they were financially constrained: *'We can't finance our own production, how can we finance others'* (Fieldwork Interviews, 2013).

[140] There is no accurate data on exactly how many smallholders continue to participate in this strand of the chain, but the consensus is that very few do.

[141] I was not given access to these farmers as the export firm claimed that permission could only be granted by the bank in Switzerland. The name of the bank was also not made available.

Table 7.5: Acreage and staff strength of some pineapple exporters

Company	Acreage (in hectares)	Number of Workers
Golden Exotics Gh. Ltd	6,000	1,200
Bomarts Farms Limited	3,000	650
Milani Ghana Ltd.	1,759	200
Jei River	3, 237	450
Chartered Impex	2,000	192
Koranco Farms	2,500	230
Georgefields Farms	2,600	250
Prudent Farms Ltd.	2,000	160
Bio Exotics Ltd.	1,000	80
Volta River Estates Ltd.	1,000	100

Note: Acreage refers to the total land size available to the exporter

Source: Author's Fieldwork Interviews, 2013; Gatune et al; 2013

7.7.1 Post-harvest handling of fruits

The government and development organisations embarked on sector-wide and national infrastructure projects to complement the individual efforts of exporters. At the regulatory level, the HEII improved the laboratories of the GSB to conduct pesticide residue analysis, and publish requirements and guidelines for several crops, including pineapple (Whitfield, 2010a; World Bank, 2011a). Two primary objectives of the World Bank funded HEII programme (see Chapter 6) were to increase the income of horticulture industry participants through the development of cold chain infrastructure and the introduction of the MD2 variety (GoG, 2004:3). Thus, the fruit export shed (Shed 9) at the Tema port was upgraded into a cold storage facility able to accommodate up to 1,360 pallets (World Bank, 2011a: 17).[142] In 2012, MiDA completed the construction of a Perishable Cargo Centre (PCC) at the country's international airport, Kotoka International Airport (KIA).[143] The PCC is a 1,200-metre square facility with a 200-metre square cold room, shaded packing area of 350-metre square and work room of 600-metre square.

In 2009, it cost US$838,370 for a cold chain (Lopez-Ventura and Miller, 2009 in NRI, 2010), an amount out of the reach of many exporters in the Ghanaian pineapple chain.

[142] Its upgrading however resulted in the delay of developing other infrastructure such as the perishable cargo shed at the Kotoka International Airport (KIA) for air-freighting of fruits and vegetables.

[143] It was originally scheduled to be completed in 2009.

Under the MCA programme, SPEG was given a revolving grant of US$2.1million for onward lending to its members to install cooling facilities, generators and pack lines at their production sites (MiDA, 2013:68).[144] Six exporters benefitted from this grant (MiDA, 2013:66). Exporters invested in cold chain infrastructure such as reefers (refrigerated trucks) and packhouses. All exporters (100%) interviewed in this study had in place highly automated packhouses which are air-conditioned, have water purification systems and other standards of hygiene, such as the wearing of gloves and covering of hair. 80% of exporters interviewed had reefers (refrigerated trucks) which transported the fruits from the farm to the port. The one exporter who did not have a reefer at the time of the study indicated that it had broken down and he was in the process of acquiring a new one.

Other infrastructure developments carried out include the construction of roads by MiDA. This has ensured that at least two exporting firms and one processing firm interviewed in this study cut down on their costs of production. The production manager of the processing company interviewed in the study admitted that the road had greatly reduced the time it takes to transport packaged cut fruits to the airport, resulting in fewer events of missing scheduled flights, thus making them more reliable and cost efficient.

Despite improvements in infrastructure at the sea port, the cost of transporting fruits from Ghana is still relatively high. Handling charges at the Tema port are comparatively higher; US$15.5 in Tema and $12 in Côte d'Ivoire (World Bank, 2011a:18). The AEL sea carrier, a sister-company to Compagnie Fruiterè, still makes two stops per week to transport fruits to Antwerp, Port Vendres and Vado (all in Europe).[145] Exporters and a senior official of SPEG commented that they view transportation fees paid as expensive. However, due to the relatively low volumes of pineapple exported, it is not feasible for a second sea vessel transporter to be enticed into the market.

7.7.2 Exchange interactions between producers and processors

7.7.2.1 Nature and content of contracts

In Chapter 6, it was observed that the use of oral or unwritten contracts served the interests of both producers and exporters. It allowed exporters to pass on risks arising from pricing and market demands to smallholders and vice versa. Given the new global

[144] The initial grant amount was US$5.4million; but due to funding challenges this was reduced to US$2.1million (MiDA, 2013:68)

[145] AEL was formerly known as Union Bananiere Africaine (UBA)

governance conditions, this relationship was unsustainable. Currently, written contractual agreements underlie the relationship between producers (smallholders and medium-scale farmers) on one hand and processors or exporters on the other hand.

The experiences of farmers cultivating MD2 is relatively recent. Over 80% of farmers interviewed started MD2 cultivation in 2008 and they were usually requested to do so by a processor. A medium-scale producer, for instance, was given a loan of €3000 by a processor to begin cultivation. The tenuous contractual relations between producers and buyers in the Smooth Cayenne configuration, have given way to strong contractual relationships between processors and producers on one hand and a nascent but promising relationship between exporters and Sugar Loaf farmers on the other hand.

Producers indicated that having experienced a lack of demand for their Smooth Cayenne fruits and/or the financial losses endured due to the inability of exporters to pay for purchased produce, they were forced to reflect on how they were integrated into the pineapple supply chain. Since 2008, written contracts have usually formed the basis of relationship between producers and exporters or processors. The majority of small and medium-scale producers, as well as cooperatives interviewed for this study, indicated that it is the minimum requirement for them to produce for export; and without it they do not take the exporter or processor seriously. The only exception is in respect to the production of the Sugar Loaf variety where producers in both the Akwapim South and Ekumfi districts said they would produce without a contract since it has a significant local market demand. Other reasons for insisting on a written contract are; market access, guaranteed prices and avoidance of opportunistic behaviour.

The following condition must, however, be first met at the start of the relationship. Small and medium producers in the conventional pineapple market producing MD2 and Smooth Cayenne must at the minimum be GLOBALG.A.P certified. In the Sugar Loaf strand, certification for the niche market is required (i.e. organic and Fairtrade certification). Producers for GLOBALG.A.P. are certified under Option 2 (see Section 5.3.1). All exporters and producers interviewed (100%) who participated in the conventional pineapple market were at the minimum GLOBALG.A.P. certified. In the niche chain, three cooperatives were interviewed; one cooperative was both Fairtrade and organic certified, the other was organic certified and the third was in the final stages of certification. The contracts are production contracts, generally in the form of a Memorandum of

Understanding (MOU). The contracts commonly agree on the following: (a) quality (e.g. size, brix level) (b) quantity per week (c) price per kg (d) contract duration and (e) payment terms and (f) technical assistance. The contracts are however incomplete, as they fail to address all possible contingencies such as how to terminate a contract in the event of breaches or non-performance and terms for conflict resolution when necessary.

Certification, though costly, is a must for participation in the international value chain. It was estimated that in 2013, the total cost of certification was €10,000 (Gatune et al., 2013). Fortunately, small and medium-scale producers in the study do not bear the full cost of certification. In fact, they were unable to provide information on the non-recurrent lump sum cost of certification because processors, exporters and/or donor agencies are responsible for this cost. Processors and exporters bear this cost because the fruits are exported under their brand name and maintaining a good reputation is essential for further exports to already existing markets or new ones. For donor organisations, it is part of their broad objective of integrating farmers into global value chains (Fieldwork, 2013).

Small and medium-scale producers are directly responsible for recurrent costs like the cost of recommended fertiliser and agro-chemicals, workwear and administrative costs e.g. record keeping (for traceability). The involvement of development agencies which assist producers under a programme with definite term dates, raises the question of whether such producers would be able to pay for the costs of certification on their own. A cooperative indicated that in the initial stages of MD2 cultivation, TIPCEE trained and paid for its group certification. Presently, the TIPCEE programme has ended, and the group would have had to pay for its own certification.[146] Fortunately, as the cooperative now contracts with a processor, the processor bears the cost.

The contractual relationship however is characterised by a limited use of inter-linked contracts specifying finance (credit). An interlinked contract is 'a contractual arrangement between two parties that combines transactions across multiple markets' (Koo, Huang and Kan, 2012:350). The crucial role of interlinked contracts in the literature on agriculture development has been emphasised by some authors e.g. Bardhan, 1980; Bell, 1988; Bell, Srinivasan and Udry, 1997. As an institutional arrangement, interlinked contracts are likely to cause improvements in productivity and efficiency of farmers as they have the power to

[146] USAID Ghana however still supports the cooperative by providing training for a member of the group to help renew its certification.

reduce search costs, monitoring and contract enforcement costs (Baumann, 2000; Eaton and Shepherd, 2001). Woodend (2003:6) notes that interlinked contracts are suitable for cash crops and high-value fruits and vegetables and not staples because of their low value. The literature on contract farming also supports the use of interlinked contracts especially when the contracted crop has a long gestation period.

The financial situation of many small and medium-scale producers in the chain has been laid out in the sections above and in Chapter 6. In 2013, the cost of producing one acre of pineapple was GHC5200 (US$2,363) while potential revenue was GHC12, 312 (US$5596) (Tables 7.6 and 7.7). On the face of it, participation is extremely lucrative and should encourage more farmers to enter the chain. However, given the lingering challenges with accessing and affording credit and the lack of contracts specifying credit, entry is a challenge.

Table 7.6: Cost of production per acre in 2013[147]

Item	**Unit**	**Total cost (GHC)**
Suckers	24,000	1,200
Manual Labour for land preparation		150
Tractor for clearing land	1	60
Fertiliser at subsidised rate	15 bags	750
Labour for other activities		750
Plastic mulch	3 rolls	1,050
Ethylene gas	4 litres	60
Others (e.g. pesticides, other labour costs, herbicides)		1,180
Total Cost		5,200

Note: (a)Others include costs of labour for spraying, weeding, water, which varies from farmer to farmer (b) Suckers are usually produced by the farmer hence it is a cost that they save (c)Permanent labour is increasingly used. It is estimated that farmers hire 5 permanent workers although some (medium-scale farmers) hire as many as 32.
Source: Author, based on fieldwork interviews

[147] Based on data provided by farmers in the Akwapim South district.

Table 7.7: Revenue and profit per acre, 2013

Assumptions	
Plant Population	24,000
Pre-harvest loss	10%
Net yield:	21,600
Average fruit weight	1.5kg
Average selling price	GHC0.38
Average weight per acre (kg)	32,400
Revenue	GHC 12,312
Profit	GHC 7,112

Note: Average selling price based on prices for both conventional and Fairtrade pineapples

Source: Author, based on fieldwork interviews and conversations with industry experts

Although contractual relations have become the backbone of the relationship between producers and exporters or processors, the contracts usually only specify technical assistance. In the few cases where contracts specify credit and inputs, it is dependent on the characteristics of the producer. Processors selectively and infrequently provide credit (low or no-interest loans), to their contracted farmers because of past experiences with financially assisting producers. A production manager recounted the story of providing finance to a farmer with whom they had repeated interactions and thought was loyal to the company. On receipt of the funds, the farmer stopped farming and travelled abroad without informing the company of his decision. Based on such experiences, the company no longer funds production for all its producers: rather *'the firm gives a soft loan to one particular farmer who sells all his output to the firm'* (Fieldwork Interview, 2013). One farmer indicated that he accesses soft loans (formerly interest-free but now charged 10% interest per annum) from the processor who has the right to purchase all the fruits he harvests on his 250-acre farmland (Fieldwork Interview, 2013). Another medium-scale producer with 35 acres of land concurred that the processor used to provide financial assistance but had not done so for the last three years due to farmers' defaulting. The processor acting as a guarantor was, however, assisting with formal finance from a financial institution (Fieldwork Interview, 2013).

For other producers, accessing finance is extremely challenging. Access to finance can be defined in terms of the 'ease with which an individual can use financial services if they want' (Ellis, Lemma and Rud, 2010:1). Frequently, accessing finance from formal financial

institutions by agricultural producers is difficult. Bank lending preferences, the cost of credit and collateral requirements are some of the factors limiting farmer access. A smallholder farmer interviewed summed it up in this way: *Apart from the big time farmers, it is very difficult for a small farmer to get a loan. You can't get it from anywhere.'* (Fieldwork Interview, 2013).

Financial institutions (both bank and non-bank) explain that financing the pineapple sector is difficult because; (a) It is a highly perishable crop (b) It has lots of restrictions i.e. standards to adhere to (c) It has a long maturity period (12-18 months) (d) Past experience of non-payment of credit by both exporters and producers has made financial institutions weary. According to a representative of a microfinance institution (MFI), a primary condition of any smallholder or medium-scale farmer looking for finance, is *'a guaranteed end market'* hence *'there first needs to be a contract with an exporter or processor who has made an undertaking to buy the produce'* (Fieldwork Interview, 2013). However, it was found that MFI's just like commercial banks, rarely provided value chain finance to small scale producers even if they met this condition.

Prior to the thesis' fieldwork, I had been informed that an MFI provided financing to pineapple farmers (in cooperatives) who had a guaranteed market for their output. During the fieldwork, the researcher found that it no longer did so. Discussions with a representative of the institution revealed that MFIs, just like other financial institutions, had been slow to innovate financing in value chains and thus preferred to finance trading activities which they perceived yielded interest and profits quickly: *'The long gestation period of pineapple i.e. one year and over, makes it difficult to finance. Assuming you give a moratorium of even four (4) months, you lose some money as the same amount of money given to a trading business will yield interest and profit over the same period'* (Fieldwork Interview, 2013).

In other value chains where MFIs participate in value chain finance, it is due to the involvement of a buyer: *'Currently in Ghana, any MFI actively engaged in value chain financing is most likely to be based in the Northern sector of the country. Financing of millet and barley is due to partnerships with brewery companies e.g. Guinness Ghana'* (Fieldwork Interview, 2013). A caveat to the provision of finance by MFIs to pineapple producers is that small scale producers generally choose not to access finance from MFIs even if they could. Although the collateral requirements by MFI's are much lower in comparison with commercial banks, their interest rates are higher. For example, the rate is 3.5% per month (i.e. 42% per annum

in the case of one MFI). while commercial banks average around 36%. Two medium-scale producers interviewed in this study accessed funds from an MFI because its collateral terms were favourable: '*The micro-finance institution will take any form of collateral. I gave them a plot of land*': in the other's case, the collateral demanded included furniture (Fieldwork Interviews, 2013).

About 87% of the study's sample producers would want to access finance from financial institutions. However, several obstacles prevent them from doing so, most importantly the lack of collateral and the high interest rates charged on the loans. Below are some responses by small scale producers on their ability to access finance for production.

'Here, we don't have collateral in our buildings and all those things because the banks will be asking you for collateral. Here, maybe putting up your building is on family land so there's no collateral, no documents on it.'

'Even if you are a customer to any of the financial institutions, if you go there its pure commercial loans. Now the pineapple suckers is about 13 to 15 months and then commercial loan is 12 months. Imagine! And then the interest rate is as big - 30% [minimum of 25%]. How can you manage that? You won't even get a loan with an interest rate of 25%. It's very serious.'

'With the work we do [pineapple production], the high interest rate is not advisable. Getting a commercial loan will not allow you to work'

'It is difficult to get it from any bank. Turning you up and down. So many frustrations, you the farmer will regret.'

For small scale producers who could but chose not to access finance from MFIs, their reasons included (a) the loan amount offered was too little to fund their pineapple production and (b) repayment schedules were not favourable to them. Their views of the payment schedules of MFIs were poignant: *'They are very dangerous. They will give you today and you have to start repayment tomorrow with a higher interest rate. You are better off with a commercial loan.'*

'Their terms are also not favourable. It is favourable for the women who sell little things [petty trader] *but not a farmer like me as I cannot make weekly repayments.'*

An MFI representative conceded that loan repayment methods used may deter farmers from accessing finance*: 'the experiences of others [not necessarily in farming] due to their inability to*

pay back loans and the actions taken by MFIs to recover monies, turn off people in close-knit communities in rural areas, to access finance. There is shame associated with not being able to pay back loans or being indebted, which makes others unwilling to access finance even though their circumstances may be different' (Fieldwork Interview, 2013)

A solution to the financing needs of smallholders is vital to their continued participation. Smallholders expressed the view that the government should provide their financing needs. However, even the government's Microfinance and Small Loans Centre (MASLOC) scheme, like other microloan schemes in the country, is geared towards the provision of small loans for other professions, such as taxi drivers and petty traders. Fortunately, smallholder financing needs are being addressed by the government to an extent through a fertiliser subsidy programme (FSP) (discussed below). Pineapple exporters registered with SPEG and small and medium-scale producers registered as suppliers to an exporter or processor can access the FSP for their production needs.

In the case of the Ekumfi District, sugar loaf producers can use their contracts to secure finance from a commercial bank. This is however made possible by the GIZ under the MOAP. The commercial bank advances credit to the cooperative based on their contract with a known exporter. When fruits are delivered to the exporter, he deducts a portion of the price paid and pays directly to the bank before paying the farmers. Also, the bank prefers to deal with a group of farmers rather than individuals to encourage repayment. The interest rate charged is 23.19% and although the loan amount is less than half (about US$ 545) the cost of production of one acre of pineapple there is a long moratorium period of one year. After that, farmers have six months within which to pay back the loan. The longer moratorium period ensures that smallholders can harvest and deliver the crop to the buyer before loan repayment begins. Since credit is provided to individuals in a group, there is both a remunerative and normative incentive for the farmer to honour his obligations. The onus is on the farmers to pay back on time to increase the chances of approval of subsequent loan applications by the entire group. At the time of the thesis fieldwork the model was being piloted with the intention to roll out on a larger scale.

The way finance is accessed feeds back into the chain to affect the ability to expand supply: *'You're not able to cultivate large areas. Assuming you have GHC2000 at the beginning of the cycle, you use it to start. If you have fruits from an earlier cycle, you sell those and use the revenue to continue with the plot you've started'* (Fieldwork Interview, 2013). Smallholders in one cooperative assist each

other financially by lending to one another, although they admit it is not the best way: '*Internally, we help each other. When someone has sold some fruits and receives his money, he can lend it to another member of the cooperative'* (Fieldwork Interview, 2012). 58% of producers in the Akwapim South district indicated that they could not expand production because of how they finance their production. One producer further noted that reliance on his own finance and/or exorbitant interest rates on loans have led to the situation of him being *'unable to complete my building for the last three years'* (Fieldwork Interview, 2013).

7.7.2.2 Enforcement of Contracts

Interactions between producers and processors can be characterised under captive governance since the producers are highly dependent on the processors for market access, assistance with certification and extension. Under captive governance, producers face significant switching costs, and opportunism is controlled through the dominance of lead firms. However, this thesis finds that opportunism in the captive governance relation is curtailed primarily by the influence of local conditions which make contracts relational and thus self-enforcing.

Since the 1990s, a history of repeated interactions between processors and producers in the Akwapim South district has built up some amount of trust between the two parties. Pineapple cultivation in the Akwapim South District began long before exporting and processing firms moved to the location. A cooperative in the district (which has been in existence since 1992) was introduced to the processor in the late 1990s by the MoFA. In other cases, individual farmers themselves went to the processing firms and availed their services or were recommended by friends. Shared values, trust, reputation, loyalty and norms have come to define the interaction between processors and producers: in the words of one small scale producer, '*As long as they operate, we operate*' (Fieldwork Interview, 2013). Producers interviewed indicated that processors continued to purchase Smooth Cayenne from them during the MD2 crisis. This gave them some market access in a time when no one else wanted their fruits. To an extent, this relationship assisted in lessening the full impact of the crisis on them.[148] The production manager and agronomy team of a processor admitted that they sourced pineapples from small and medium-scale producers because they were more efficient at growing it. Though the processor has farms which cultivate other fruits, e.g. passion fruit, an attempt to cultivate pineapples on their own

[148] The main buyers of pineapple were exporters.

farms failed because of the attitudes of farm workers (e.g. lateness to work, lack of attention to details) resulting in high supervision costs. Also, pineapple fruits sourced from the processor's farm were very small and did not meet the required brix level. This admission indicates that small and medium-scale producers still have some advantages and opportunity to participate in the chain.

Currently, interdependence in the form of transactional dependence, i.e. dependence on one or a few buyers or producers (Pietrobelli and Saliola, 2008), is a major determinant of contractual compliance. The low number of buyers and sellers has served as a major factor eliminating the incentive to behave opportunistically. 53% of the study sample contracted with two processors, 47% with only one processor and 5% with both an exporter and a processor. Processors contract with both exporters and small and medium-scale producers.

Poulton and Lyne (2009:149) posit that a low number of buyers and/or sellers in markets leads to increased asset specificity ex-post, and this could likely cause hold-up problems. In the Ghanaian case, the likelihood of hold-up problems is greatly reduced by: (a) the lack of local market for MD2 pineapples, (b) a comparatively lower demand on the local market for all three pineapple varieties, (c) lack of access to formal finance and/value chain finance, (d) the terms of the contract itself (e.g. guaranteed prices), (e) the actions of the processor and (f) comparatively higher incomes from the chain. How these conditions influence compliance and exchange is detailed below:

- Both parties to the exchange make relationship-specific investments whereby any breach of the contract will deliver significant losses on both sides. Processors pay for producers to get certified, train them and frequently visit production farms to ensure that certification processes are complied with, and problems with the quality of fruits are dealt with quickly. Producers also make financial and physical investments (i.e. learn about and apply processes) for a crop which has very limited local demand (MD2) or low or no standards requirements on the local market (Smooth Cayenne and Sugar Loaf).[149] Remuneratively, except for Sugar Loaf, prices on the local market are lower than the export market and the volumes taken up by the local market are lower. Thus, there is little incentive to behave opportunistically.

[149] International supermarkets, e.g. Shoprite, and hotels operating in the country require GLOBALG.A.P. standards when purchasing produce. They generally purchase from exporters and/or processors who they know adhere to such standards.

- Organisational practices of processors have also enhanced the reputations of processors as reliable contractual partners, increasing further the self-enforcing nature the contracts. Such organisational practices include prompt payment and flexibility in payment schedules. Recall that in the Smooth Cayenne period, producers had to wait for months before they were paid for produce delivered. The current organisational norm is that producers are paid through cheque payments made directly into their bank accounts, two weeks after delivery. According to the small and medium-scale producers interviewed, the processor has never reneged on this. Furthermore, it is possible to negotiate for your payment date to be moved forward if needed. Another processor pays 20% of the sales invoice amount upfront in cash on delivery of the produce. Hence, if a farmer supplies about 10,000 fruits at GHC0.40 per fruit, 20% of the amount of money owed, GHC800 (approximately US$363), is paid instantly. Smallholders paid this way admitted that it enabled them to buy the needed inputs, e.g. fertiliser, for cultivation.

- Producers are also incentivised to meet the processor's requirements because of the terms of the contract. Small and medium-scale producers indicated that, in view of high production costs, the contract gave them a sense of transactional security. Contracts stipulate that the processor buys all the contracted fruits which meet the quality specified. 100% of small and medium-scale producers interviewed confirmed that the total quantity of pineapple on the market has never affected the price or quantity that has been contracted for. This is contrary to the former practice of exporters reneging on the promise to buy contracted produce in order to mitigate losses due to fluctuations in supply or the ALCOSA scheme in Guatemala where the company refused to purchase all the cauliflower contracted for in a season of oversupply by stating that the contract did not mandate full purchase of all the contracted produce (Glover and Kusterer, 1990:26).[150]

- Failure to meet standards required will result in exclusion from the chain. In meeting these requirements, the producers continue participating in the pineapple export chain, which they value more highly in comparison with participating in food crop chains such as maize and cassava. In 2013, producers received GHC0.40

[150] The ALCOSA scheme in Guatemala also suffered from fraud activities perpetuated by firm staff against the farmers.

(18 US cents) for both MD2 and Smooth Cayenne fruits between 1.4 and 1.8kg and GHC 0.35 (16 US cents) for overweight fruits (Fieldwork Interviews, 2013). The known price is in comparison to the local market where traders (market women) buy the fruits based on a visual assessment of the weight. If the fruits are classified as small, the trader buys it at a low price.

In the Sugar Loaf strand, market women pay a higher price than exporters. Grade 1 fruits weigh about 2kg and in 2013 were priced at GHC1 on the domestic market (US$0.45).[151] Grade 5 fruits weigh about 0.5kg and are sold at GHC0.50 (US$0.2). For the export market, processors and exporters prefer fruits weighing between 1.4 and 2.5kg. Producers indicated that they prefer to sell to exporters because they purchase much more fruit and the contract provides them with a stable expectation of revenue. The remunerative incentives for participating in the export value chain described above and in Tables 7.6 and 7.7, are in line with findings of other authors e.g. Goldstein and Udry (1999), Abbey (2005) and Suzuki (2014) in their studies on the Ghanaian pineapple export value chain. Furthermore, medium-scale producers extended the higher valuation of participating in the pineapple chain to other cash crops e.g. cocoa and professions. A medium-scale pineapple producer who also cultivates cocoa said: *'I get more money from pineapple than cocoa. I will get 10 bags per acre for cocoa and earn GHC3,000 but for pineapple, I will earn GHC12,000 per acre'* (Fieldwork, 2013). Another responded: *'Yes, it provides better income than even a government job, because I don't have a high level of education'* (Fieldwork Interview, 2013).

- Normative incentives serve as a backup or additional pressure for compliance when producers participate in the chain as a group. In addition to each farmer's personal incentive to comply with the quality standards, the potential collective sanction of exclusion of the group from the export market discourages the members from yielding to incentives for short-term opportunistic behaviour. A cooperative in the Akwapim South District has what it calls a Marketing Committee. The responsibility of the committee is to search for markets for the group and also negotiate for better contractual terms. To ensure compliance with standards, the committee makes regular visits to the farms of members. In another cooperative in

[151] Exchange rate of GHC 2.2 to US$1(BoG, 2014).

the Ekumfi district, the group leader described the normative incentive this way: *'Since we stand as guarantors for each other, repayment is as a group so we have to make sure we pay. If an individual is unable to repay his loan and it was not due to factors beyond his control, we will take control of his farm. If his non-payment was also due to laziness, we will remove him from the group after getting him to pay his debt. If he's unable to, we will go to his relatives'* (Fieldwork Interview, 2013).

It is likely that reliance on small and medium-scale producers will increase due to recent declining supplies of Smooth Cayenne in Ghana. Processors have had to import pineapple from neighbouring countries, such as Togo and Benin.[152] For one particular processor, 10% of current pineapple supply is imported, causing an increase in costs of production since his team must travel there to check on the quality of the fruits before they are imported into Ghana (Fieldwork Interviews, 2013). The likelihood that small and medium-scale producers can take up this opportunity is discussed in section 7.7.5.

7.7.3 Financial transactions of producer-exporters

Apart from the history of high level of debts exporters accrued, the study found that the local condition of limited innovation in agriculture finance was crucial to the financial transactions of producer-exporters. A question posed to exporters during the study's fieldwork, 'Which aspect of your firm's production requires the most funding?' elicited different responses. 60% answered cultivation; while 20% answered post-harvest handling. What they all agree on is the capital-intensive nature right from land preparation: *'the pineapple business is capital-intensive, you need the right type of machinery, personnel, even equipment – the one you use for spraying, land preparation, things like that. If you don't have enough capital, you can't get the right type of machinery, you can't do the work well, and it will affect your productivity level'* (Fieldwork Interview, 2013).

Like the situation faced by small and medium-scale producers, exporters face high interest rates for borrowing funds from commercial banks. These rates are consistently above 30% and sometimes as high as 42% (Fieldwork Interviews, 2013). Financial interactions between exporters and financial institutions are also restrictive, because specialised programmes for financing, for example, equipment are limited: *'When you go to the banks, they have short-term credit. If you want to buy tractor, 80-100 horse power, they can't give you [credit]'* (Fieldwork

[152] The issue of declining Smooth Cayenne production is explored in later sections in the chapter

Interview, 2013).

80% of respondents agreed that they are not able to access finance for this aspect of production. The one exporting firm which did not complain about finance indicated that for the past three years, it had not profited from its pineapple production but rather broke even. Two others had accessed commercial loans in which machinery and equipment were used as collateral. In all, exporters agree that what funding they manage to access is inadequate to meet their needs. One exporter indicated that he managed to access *'only 10-15% of what I needed'* (Fieldwork Interview, 2013). Another producer-exporter indicated that for equipment and construction of packhouses the company finances 40% of its needs from its own funds and the remaining 60% from financial institutions (Fieldwork Interviews, 2013). Thus (a) internal funds or retained earnings (b) owner's contribution or issued new equity shares were important sources of finance for the activities of exporters.

Correspondence with representatives of two commercial banks interviewed in this study indicated that Letters of Credit are the most common way to finance exports of fruits and vegetables. Exporters and Processors, for example, need working capital, e.g. for equipment, as well as long-term capital investment, which cannot be financed by letters of credit.

Regarding government financing, only one exporter at the time of the study was in the process of obtaining funds from EDAIF. In 2013, EDAIF funds were made available to 26 banks including Ecobank Ghana Limited, Agricultural Development Bank and Ghana Commercial Bank at an interest rate of 2.5% p.a. for onward lending to beneficiaries at the maximum interest rate of 12.5% (NRI, 2010). There is an incentive to access EDAIF funds rather than commercial loans due to its comparatively lower interest rate (12.5%) compared with commercial banks (28-34%): *'From time to time, we do fall on commercial banks for some loans. Generally, interest rate is high there but you may fall on them when there's a critical need for funds: when you're making some changes and funds are delaying'* (Fieldwork interview, 2013). Administrative challenges seem to limit access to EDAIF funds, as exporters generally complained about the complexity of the loan process: *'It's not very easy. It takes some time. You need to do a lot of paperwork, get your figures right. I mean it takes some time, but it's money. Once you're taking money, everyone wants to know that it is going to bring the required results'* (Fieldwork Interview, 2013). Furthermore, exporters subjectively perceived that since commercial banks bear the full credit risk of disbursing EDAIF funds, they intentionally increase the paper work required

and the length of time in order to frustrate beneficiaries and encourage them to rather use the banks' own loans. This view was rejected by a representative of EDAIF, who claimed that the banks had to be extremely diligent in disbursing loans. As at 2013, the EDAIF scheme was undergoing reforms to make it more successful.

7.7.4 Horizontal cooperation among producer-exporters

The use of standards in the pineapple value chain induced adjustments in relations between farmers and exporters, in attitudes towards horizontal cooperation and in the functions of collective action organisations. SPEG, for example, had to reinvent itself to meet the challenges of participating in the global chain. The near-collapse of the pineapple sector has given it visibility and an ability to lobby the government for incentives for its members: *'We're always able to get discounts, waivers and other things for them [our members]. For instance, when the VAT was introduced, it was also applied to imported packaging materials, so the members always had to prepay and you know reimbursement may take months or year so that was an issue that was disturbing our members. We had to take it up as an association. In 2004 thereabouts the government agreed to waive that for SPEG members and only upon our certification that this company is coming from SPEG and therefore it doesn't have to pay upfront'* (Fieldwork Interview, 2013). Recently, it succeeded in lobbying for its members to be granted access to the FSP, citing the costs reduction potential (Fieldwork Interview, 2013).

Although individual exporters made their own efforts at acquiring knowledge in producing MD2 and adhering to standards, SPEG also contributes to learning. SPEG's efforts were facilitated by its interaction with international agricultural organisations like COLEACP. They complement the knowledge acquisition efforts made by individual exporters and SPEG from time to time and procure agrochemicals in bulk for distribution to its members (Fieldwork Interviews, 2013). By doing so, its members pay prices lower than the market price. A senior official of the association admits: *'We are doing things now, we should have done 10 years ago' (Fieldwork Interview, 2013).*

Recently, as part of branding the country as a top supplier of quality pineapples, SPEG has initiated a group branding and marketing scheme. The scheme, under the brand name *Sankofa* began in March 2012. In 2013, eight exporters were participating in the scheme. The scheme also has the objective of assisting members in maintaining and/or increasing their market shares in export markets, penetrating new markets in, for instance, North Africa and the Middle East and promoting the acquisition of fruits of consistent quality in

high volumes. 1,400 metric tonnes of pineapples under the brand name were shipped to Italy, France, Denmark and the UK in 2012 (Gatune et al., 2013: 31).

SPEG markets the product, identifies potential buyers and negotiates payment terms. Participating exporters who have committed to contribute pre-agreed quantities supply these to be traded under the brand name. SPEG's technical team validates the quality of the fruit by visiting contributing exporters to check on quality procedures and recommendations (Gatune et al., 2013, Fieldwork Interviews, 2013). Under a common brand, bulk purchases of inputs, e.g. cartons, and quality control decrease the transaction costs faced by exporters.

The ability of the scheme to deliver its objectives depends on the buy-in it gets from the exporters. This study observed that allegiance to own brands might threaten the survival and success of the scheme. Some exporters interviewed did not participate in the scheme because they did not want their own brands to be overshadowed by a new 'unknown' brand.

Formerly, in the export of traditional agricultural products such as coffee and cocoa by SSA countries, quality standards were the responsibility of the state. SAP reforms largely shifted this responsibility to buyers, and currently globalisation processes have given a role to third-party auditors in certifying the quality of produce. In the Ghanaian cocoa value chain, the state maintained its responsibility of quality control. Thus, the country earns a premium on the cocoa beans produced, compared to her competitors.

In the pineapple sector, the responsibility of ensuring that fruits meet the high standards set by buyers lies with the processor and/or exporter. Besides the quality control mechanisms individual exporters implement on and off-farm, SPEG attempted a sector-wide quality control system. According to a senior official of SPEG, the objective was to ensure another level of quality control which would essentially lead to the export of fruits of a comparable high level amongst all exporters and raise the supplier status of its members and the country. The scheme was implemented for one year with an international inspection agency: *'What we did at the time was that we selected companies that had packhouses so that we could have a place where we could also go and inspect. The independent inspectors we actually used was Bureau Veritas (an international inspection agency) and they had personnel who will go to the packhouses and do the inspection. And then at the ports of exit, they will be there. We agreed on the list of criteria we will use both external and internal. They will inspect that at the packhouses, provide the score and also at*

the ports…At the end of the day, they will get a report back to us and the farmers so that the farmers will know where they are in terms of quality, so that they can make amends. After every departure of the vessel, the report comes out. We did that for 12 months. It was very useful and helped to get the awareness and the companies to institute proper measures to be able to ensure consistency in quality' (Fieldwork interview, 2013).

SPEG was unable to fully implement the scheme, due to the lack of personnel and the financial costs: *'Getting independent inspectors, i.e. inspectors not within. It means we have to engage people, pay them, provide logistics and others.* It's a *lot of money, so we couldn't do that. We had wanted to see whether we could use national institutions like the Ghana Standards Authority. They had limitations in terms of staff and understanding some of the issues of pineapple so I think the system we have now and the preparedness of the exporters to do the right thing is helping. No serious buyer will work with any company that has inconsistent quality in deliveries'* (Fieldwork Interview, 2013).

Other forms of interactions taking place between producer-exporters are indicated in (Table 7.8). First, when an exporter has an order but his own production cannot meet the demand, other exporters are relied upon. This practice is governed by personal relationships among heads of exporting firms, the staff and the nearness of production sites. 40% of producer-exporters interviewed indicated that they have collaborated with other producer-exporters using personal relationships and distance from the production site. Secondly, inputs are sometimes commonly procured. All cartons in which pineapple fruits are packaged for export are imported into the country. The cartons cost about €1. Purchasing cartons together allow exporters to buy at a price lower than €1 and also reduce their transportation costs. Thirdly, producer-exporters have also started collaborating with each other in negotiating prices with the same importer. They discuss and agree on the ballpark price before they meet the importer.

Table 7.8: Forms of horizontal cooperation in the sector

	Informal	**Formal**
Horizontal Cooperation	e.g. buying cartons together, negotiating prices together with importers	e.g. Common quality check, common marketing and brand scheme

Source: Author

7.7.5 Cooperation between and among public and private organisations

Collaboration with external actors, for example, research organisations or universities, is extremely limited in the pineapple chain. Unlike in the Ghanaian cocoa chain where the CRI conducts research into cocoa, there is no such specialised body for the horticulture sector. In Brazil, two research institutions, the National Centre for Research on Grape and Wine (CNPUV) and the Brazilian Agricultural Research Corporation (EMBRAPA), undertake research and training for the grape and wine clusters (Selwyn, 2008; Gálvez-Nogales, 2010). EMBRAPA for example conducts research into '...post-harvest technologies, and analysis of the changing biological and market conditions under which fruiticulture production takes place...' (Selwyn, 2008:386). Manteaw et al, (2014:73-74) reveal a paucity of researchers on pineapple in six scientific public institutions in Ghana. All exporters interviewed in this study had not collaborated with a research organisation, whether public or private, in at least the last two years and independently undertake agriculture trials on their own.[153] BFL on its own operates a tissue culture laboratory which propagates cultivars for producers on request. It is interesting to note that it is the only exporter that has its own laboratory and successfully diversified into the production of dehydrated mangoes for export.[154]

The recent shortages of Smooth Cayenne underscore the need for research into the changing conditions under which it is produced in the country. As indicated earlier on, the shortage has led to processors bringing in shipment of fruits from Togo, Benin and Cote d'Ivoire. The experiences of some smallholders interviewed indicated that the Smooth Cayenne suckers have grown resistant to diseases, do not respond well to fertiliser application and hence need to be 'forced' on average three times before it starts to flower, compared with once for MD2 (Fieldwork Interviews, 2013). They indicated their unwillingness to continue to cultivate Smooth Cayenne in the future as a result. Continuous shortages will likely imply that the percentage of fruits sourced externally will grow, putting small and medium-scale producers at risk of declining sales and maybe eventual exclusion from the sector.

On the other hand, a senior official at SPEG indicated that the country would recover from Smooth Cayenne shortages in two to three years' time. Producer-exporters,

[153] The MoFA undertakes its own agriculture trials but respondents interviewed indicated that they had not collaborated with them in at least the past two years.
[154] All other exporters apart from GEL.

incentivised by the increased demand of Smooth Cayenne fruits locally, have increased their production; '*Demand for Smooth Cayenne is very limited, so there's no motivation for people to cultivate. However, because of shortages, the exporters are now going into Smooth Cayenne again. The export market is limited, but there's a huge domestic demand. Now the large farms are all going back for that aspect of the market'* (Fieldwork Interview, 2013).

Producer-exporters are also incentivised by the ability to use Smooth Cayenne sales as a cash flow management tool. When fruits are exported, the usual agreement indicates payment in about six weeks from the time of shipment. This can sometimes extend to eight weeks. When fruits are sold to processors, payment is made in two weeks. The increasing involvement of producer-exporters with economies of scale in Smooth Cayenne production further increases the risk of exclusion for smallholders if adequate measures are not taken.[155]

7.8 Development of the chain

7.8.1 Payment on minimum guarantee basis

'In the early stages, 1990s and early 2000s, most of the sales were under an arrangement called consignment basis. But over the years it has changed because some of the exporters have become reliable in consistent delivery of quality and competent in most areas' (Fieldwork Interview, 2013).

At the export level, backward integration into production had given exporters control over supply, reducing incidences of demand shortages and over supply, which had been detrimental to the growth of the chain. They can now agree with importers on expected supply quantities and hence better plan their production programmes. At the industry level, members provide SPEG with information on acreage and estimated volumes at the beginning of the year: *'Among ourselves we know that [….] has planted about 20million plants this year, and so we're able to know what is on ground but there should be a more scientific way'* (Fieldwork Interview, 2013).[156] Significant gains made in acquiring knowledge and in improving the infrastructure of the entire chain have also resulted in the production and supply of high

[155] The development agency ACDI/VOCA in 2011 began reintroducing smallholder farmers to Smooth Cayenne production in response to increasing demand on the international market.

[156] A more scientific way was implemented by the TIPCEE project using a GIS system to encourage the building of strong capacity in commodity industries, associations, and the supporting GOG agencies to document, manage and monitor the various production systems' (USAID, 2006:36). However, information gathered from the fieldwork interviews indicated that exporters do not make use of the system.

quality fruits and improvements in suppliers' reputations. These changes have made it possible for exporters to access the supermarket segment of the value chain by supplying fruits to buyers such as Tesco and Asda in the UK. Contractual relations have improved with longer contracts specifying payment on minimum guarantee basis rather than consignment basis. *M*inimum guarantee basis means that exporters are paid a minimum amount of money on receipt of the sales invoice by the buyer. This guaranteed payment, in turn, minimises the risk of financial constraints associated with waiting for payment for up to three months after delivery has been made, as discussed in Chapter 6.

7.8.2 Government support

Government support to the chain after the period 2005-2008 can be described as reactionary rather than proactive. In 2008 the Government of Ghana launched the Fertiliser Subsidy Programme (FSP) to combat rising food and fertiliser prices (Banful, 2009:1).[157] For example, in 2008 the price of NPK (15-15-15), a fertiliser used in pineapple production, increased by 66% over its 2007 price (Fearon, Adraki and Boateng, 2015: 102).[158]

All fertiliser used in the country is imported by private firms. There is no import duty and VAT on fertilisers (MoFEP, 2012:191-194). However, fertilisers are subject to administrative fees and levies such as an inspection fee (1% of CIF), a processing fee (1% of CIF for zero-rated products), an ECOWAS levy (0.5% of CIF), NHIL (National Health insurance levy) (2.5% of CIF) and EDIF Levy (0.5% of CIF) (MoFEP, 2012:713). The government was to take up these charges. Since the market is liberalised, the government negotiated the prices of fertiliser with the importing companies.[159]

Initially, a voucher system where farmers obtained the subsidy in the form of fertiliser specific or region specific vouchers was used (Banful, 2009); but this was changed in 2010 to a waybill system, as the costs of the programme were excessive on the economy (Angelucci, 2012; Imoru and Ayamga, 2015). In 2013, the total subsidy represented 21% of the market price of fertiliser (GNA, 2013), a reduction from as high as 49% for NPK (15-15-15) in 2012 (Table 7.9). The decline in the subsidy rate was due to budgetary constraints

[157] Another objective of the FSP is to increase productivity and boost the use of fertiliser in farming as the country tries to meet the African Union target of at least 50kg per hectare set at the Abuja declaration of fertiliser use by African Green Revolution (AU, 2006).

[158] NPK stands for Nitrogen, Phosphorous and Potassium

[159] Importing firms which initially participated included Yara Ghana Ltd, Dizengoff Ghana Ltd, Golden Stork and Chemico Ltd. Chemico Ltd was the only non-MNC subsidiary (Banful, 2009:6).

and rising world prices of fertiliser. The cost of the subsidy increased from GHC20.7million in 2008 to GHC120.3 million in 2012 (MoFA, 2013a:44).

Table 7.9: Fertiliser subsidy in 2012

Fertiliser Type	Market price of fertiliser	Subsidy paid by government (GHC)	Price paid by farmer (GHC)	Subsidy (%)
NPK (23-10-05)	76	37	39	49
NPK (15-15-15)	76	37	39	49
Urea	72	34	38	47
Sulphate of Ammonia (SOA)	53	18	35	34

Source: MoFA (2013a)

Since 2007, modernisation of agriculture has been one of the main objectives of the agriculture sector policy FASDEP II. As such, promotion of agriculture exports is a major focus of the policy. To modernise agriculture, farmers must have easy access to needed inputs, hence accessibility and affordability become key to the process. Initially, the FSP was solely aimed at food crop production. Producers of cash crops such as pineapple and cotton registered with recognised cooperatives and/or as suppliers to companies had to lobby to gain access to it. To an extent, the financial burden of small and medium-scale producers is lessened by their access to the government fertiliser subsidy.

Dorward (2009:4) calls attention to the fact that 'farmers are likely to apply inputs to the use from which they expect to get the greatest return.' This statement indicates that farmers must have the right understanding of the benefit they will receive from applying an input like fertiliser, in addition to its accessibility and affordability. The consensus among small and medium-scale producers interviewed in the study was that fertiliser application was necessary to get the right sizes and quality of pineapples for exports. They also noted that the required fertilisers were locally available and meet the quality desired by buyers. Nonetheless, the price of fertiliser is sometimes a huge part of their costs of production (Fieldwork Interviews, 2013).

Dorward (2009: 14) posits that subsidies will only be taken up by farmers if they lead to sufficiently large reductions in the prices of fertilisers. Giving pineapple producers access to

the subsidy diminishes the financial pressure on their working capital and encourages the use of recommended fertilisers in the right amounts and at the right time. At the subsidised rate, fertilisers represented 15% of the cost of production in Table 7.6. This means that at the unsubsidised rate, this would be a much higher proportion.

Small and medium-scale producers spoke favourably about the FSP. However, they generally had concerns about the timing of the subsidy. They indicated that the subsidy was usually made available in mid-June when the pineapple season had already begun, thus forcing them to purchase unsubsidised fertiliser which increased their production costs.

7.8.3 Learning in the chain

Efficiently participating in the chain depends on access to flows and stocks of knowledge and information. A value that has become respected in the interaction between producers and processors is prompt communication by both sides. At the start of the production year, processors make available to their suppliers' forecasts of demand and the supplies they need. A production manager commented: *'For the whole year, we have a projection. We give that projection to the farmers to plant accordingly'* (Fieldwork Interviews, 2013). After cultivation, producers constantly update exporters and processors with records on planting times, fertiliser application and acreage planted and harvested: the agronomy team of the processor also frequently visits the farm. Producers said that if any circumstance arises which means that they will be unable to fulfil the quantity required of them, they promptly communicate it to the agronomy team for quantities to be adjusted or harvest times to be rescheduled, and vice versa. This norm in the business relationship creates a security of expectations to the benefit of both parties.

Farmer training and provision of extension services

'Quality issues begin right from land preparation. The reason is that the selection of planting materials, kind of treatment you give to the planting material, has an effect on what will happen. The land preparation that you do, will it enhance moisture retention? All these have an effect on the type of fruits you will have at the end of the day' (Fieldwork Interview, 2013).

The most important knowledge transferred to smallholders and medium-scale producers is that related to production processes. This includes agronomic practices, new production techniques e.g. using plastic mulch, and meeting certification requirements through record

keeping and farmer safety. Traditionally, the agriculture economics literature gave a prominent role to the state in the acquisition and transfer of knowledge (Johnston and Mellor, 1961; Hayami and Ruttan, 1985). Shultz (1964 in Barrett et al, 2010) deemed smallholders as 'poor but efficient' because they have different capabilities to acquire, use and interpret new information (Schultz, 1980:644). What they needed was knowledge to improve upon their skills and use of technology. State research agencies acquired agriculture knowledge which was then transferred to farmers through extension officers.

Given the fast-changing nature of information in high-value food chains such as pineapples, it is increasingly the processors themselves who impart knowledge to their suppliers. Hence for all the small and medium scale producers interviewed in the Akwapim South District, their first point of call for knowledge on production processes was the agronomy team of the processor. The information is transferred through instructions by way of training sessions organised by the processor and face-to-face interactions with the agronomy team. Small and medium-scale producers aligned with one processor attended on average 4 training sessions (seminars) organised by the processor in a year. Producers in the sugarloaf strand were found to be extremely reliant on GIZ for knowledge. This is due to their status as new participants in the export sector; hence specific training is required to improve product quality, increase productivity and facilitate compliance with food safety and certification requirements. The use of demonstration farms served as an important means to observe exactly how production techniques being communicated would affect yields and productivity. They also rely on GIZ for access to finance and linkage to exporters.

All producers interviewed in the study had a good knowledge of the appropriate agronomic practices involved in the production of high quality fruits, such as planting in rows and on raised beds, the timely application of fertiliser, the use of plastic mulch and de-greening. Raised beds, for example, increase the amount of topsoil available to the roots of the plant, improving aeration and drainage. Farmers indicated that it was better to cultivate on raised beds covered with black plastic mulch as it helps to retain moisture on the soil surface and also acts to control weeds. Challenges occurred in areas such as meeting the required brix level because the farms were not irrigated and in land preparation since access to equipment was limited. In the Akwapim South district, producers complained that the government agricultural equipment hiring service had only one tractor available for the entire district; while those in the Ekumfi district did not have access to tree stump removal

equipment.

Government extension services to small and medium-scale pineapple farmers were observed to be supply driven and supplementary to services given by processors. A government agency official interviewed noted that government institutions were slow at acquiring and disseminating specialised knowledge or techniques for high-value agricultural products because of concentration on traditional commodities. Unlike the cocoa sector which has its own extension services personnel charged with transferring the knowledge developed by the CRIG, pineapple farmers have to rely on the general knowledge disseminated by extension officers at the district level.[160] Furthermore, bureaucratic challenges and lack of personnel imply slowness in acquiring rapidly changing information in agri-food value chains: *'In terms of experts who are knowledgeable enough to support these pineapple farmers and others, you when you get to the exporters, ask them how often they have teams from MoFA. Not much, sometimes I think nil. Not because they are not ready to help, but I think they don't have the personnel who have the kind of background and training. That's why the farms have their own technical officers who have gone through various trainings to be manning the farms with not much reliance on extension'* (Fieldwork, 2013). When questioned about how often an extension officer visits the farms, the majority of small and medium-scale producers indicated they had not been visited in the past year. A medium-scale farmer cultivating 60 acres of pineapple and cocoa made this comment in relation to pineapple: *'They come around at the time for farmer awards. There was one who used to come once every two months but for the past 3 years, I have not seen one'* (Fieldwork Interview, 2013).

In sharing and exchanging information, search costs have declined for producers. Membership of a cooperative is key to farmers receiving assistance. A smallholder compared the situation now to the Smooth Cayenne era: *'When there was no group, no one knew they had to come and teach us'* (Fieldwork Interview, 2013). Cooperatives also serve as the main channel through which the MoFA extends services to pineapple farmers. It was observed that 88% of small and medium-scale producers receive some form of training, from the MoFA and donor organisations e.g. GIZ (for example, how to apply pesticides and management techniques) through their cooperatives. On the other hand, producers admitted that cooperatives did not pass on much marketing information. This is to be expected, given the extremely low number of buyers in the chain. A cooperative in the

[160] Agriculture extension services are decentralised (MoFA, 2016)

Akwapim South district has a marketing committee which is tasked with looking for markets for their produce. The effectiveness of the committee could not be independently verified, since the group sold their produce to two processors they have been interacting with since the late 1990s.

Farmers in the Ekumfi district can acquire marketing information from their participation in Value Chain Committee (VCC) meetings. The idea behind a VCC, according to a staff of the GIZ, is to bring all stakeholders in the sugarloaf value chain together to discuss the functioning of the chain. Thus, a VCC consists of farmers, exporters, the staff of government agriculture agencies, processors, traders, donor organisations and research institutions (MOAP unpublished document, 2013).[161]

Knowledge transfer on production processes has proven beneficial to producers as all indicated that they had seen visible increases in yields and/or eliminated production losses: *'We used to plant a lot of suckers but we now know that you can limit it using the same plant population. We get more yield compared to large plot but limited yield'* (Fieldwork Interview, 2013). Although yield variations occur because of dependence on rains or inadequate fertiliser application, data from MoFA (2016) indicates that pineapple yields in the area increased from 59 Mt/hectare in 2008 to 62 Mt/hectare in 2010. Other impacts of the knowledge acquired are captured by the comments below;

'We used to plant a lot of pineapples but the yield is just a handful. We have now learnt to limit it [cultivate a small portion of land] and get a higher yield. It has helped to reduce land wastage.' [162]

'Also, it helps us with labour which we previously needed lots of. We can now limit it.'

'When we didn't know the market demand, we used the available chemicals instead of approved chemical or recommended one. You also have to know the rate and active ingredients.'

'It [knowledge from pineapple production] helps the community also. We used to, after the day's work, wash our nap sacks and pour it into the water. Now we know that is wrong and can advise others we see do so.'

'There are people I work with who are not in the group. However, as I tell them what exactly to do, they acquire knowledge.'

[161] The research institutions and universities are usually not present at such meetings unless specifically requested (MOAP unpublished document, 2013).

[162] MoFA (2002) in Abbey (2005:13) estimated plant population per acre at 27,500-35,000.

7.8.4 Impact on labour and land use

Participation in high-value agriculture production is a labour intensive process which offers opportunities for poverty reduction (Humphrey and Memedovic, 2006:3). Labour is required to carefully grade suckers before planting, to apply fertiliser at the right time and in the right quantities, and to carefully harvest fruits to avoid bruising, among others. Hazell et al. (2007) suggest that farmers in contractual relations with buyers will multiply the effects of contract farming by hiring labour and spending income in productive activities. This suggestion is not borne out by 47% of small and medium-scale producers interviewed because they claim to use less labour than before. The use of standards such as GLOBALG.A.P. applies to how crops are planted, grown and harvested (Humphrey, 2009:2). Historically, the pineapple sector has relied on hired casual labour for weeding, harvesting, fetching water, and applying of agro-chemicals. Nowadays, the impact of knowledge, on for example, how many suckers to plant on an acre of land, techniques such as planting on raised beds and the spacing of plants has made it easier to water the plants and to clear weeds. Consequently, the quantity of labour needed has declined. Likewise, due to the automation of most packhouses to ensure that fruits are handled less, it is possible that in terms of quantity of employment, this has a negative effect. Nonetheless, the quality of employment is likely enhanced as workers can access better employment packages which include monthly wages, social security, the right to form and join workers' unions, access to paid leave, sick days and medical insurance.

On the other hand, the quality-intensive nature of pineapple production and the need for traceability under certification rules have put pressure on small and medium-scale producers to employ the use of permanent farm workers. Now, small and medium-scale producers hire between 1 and 20 people as permanent staff (in one case, 32 people). Though causal labour is still used (paid a daily wage of GHC10/US$4.5), permanent staff are used to carry out farm activities such as the application of fertiliser and agrochemicals because one of the control points of the GLOBALGAP standard is a record of workers trained in the use and application of agro-chemicals. Using trained permanent staff reduces supervision costs: also, since they are paid monthly salaries, producers are better able to predict their costs of production.

In the Ekumfi district, producers rely on contract labour (i.e. labour hired for a specific number of days to perform a specific activity). Usually, about 6 people are contracted to

perform an activity such as land preparation, harvesting or weeding for a number of days. A daily wage of GHC10 is paid and the duration of each activity is agreed upon by the two parties. The daily wage paid here is the same for that paid in the Akwapim South district, with no indication of differences in wages received by men and women. However, a norm associated with hiring contract labour is the providing food or paying extra for food. According to producers, provision of food for the worker is an incentive to boost morale, although they could not explain why this has been done over the years (Fieldwork Interviews, 2013), but it may help to increase productivity. Since pineapple farmers in the district have recently been integrated into the pineapple export value chain, it would be interesting to investigate later on, if any changes in labour use have occurred.

7.8.5 Distribution of risk and risk management

7.8.5.1 Smallholders and processors/exporters

Power relations have a significant impact on the distribution of risk in the chain. In Chapter 6, the power relation in the interaction between producers and exporters can be said to have been balanced. However, it exposed both parties to financial risks and adversely affected the organisation of the value chain. In contrast, the use of written contracts in the MD2 configuration serves as a form of forward contracts for producers to hedge against price and financial risks. Respondents who contract with processors were asked whether they perceived the pineapple chain to be risky or stable: 65% said stable due to the consistency that market contracts provided, while 35% said risky due to the low number of buyers. In certain cases, the most effective risk diversification mechanism was selling to the domestic market.

Based on the responses above, I sought to establish the power relations implicit in the contractual relationship and how it has affected the allocation of risks and/or risk management. The analysis is done in a qualitative manner due to the lack of data to quantify the risks objectively. The power relationship starts with the process of price determination. UNIDROIT (2014:2) defines price as 'a remuneration for the product or services usually in a form of money (cash or otherwise) even if other possibilities exist' and a price mechanism as 'the method to form the price.' On the surface, the price mechanism used - a fixed price per kilogramme - seems simple and straight forward. Processors meet with their suppliers and propose prices per kilogramme of fruits. A process of bargaining and negotiating ensues with each party stating its case for why a specific price is fair and

acceptable. The advantage of this price system is that it dispels uncertainty, allowing each party to have a reasonable idea of expected quantity and at what price (UNIDROIT, 2014:5).

Exporters and Processors generally require a fruit to weigh between 1.4 and 1.8 kg. Processors who export dried fruits can take fruit sizes above 1.8kg: but generally, any fruit above this weight is priced at 1.8kg, bought at a lower price or rejected altogether and sold on the domestic market.[163] The quality standards demanded by processors and exporters are clearly outlined. Producers realise that a low quality product, e.g. not meeting the size required or brix level means that the produce will not be accepted for export and they will lose expected income. Thus, they put much effort into meeting the desired quality at the agreed price. Given the composed description of price determination, the researcher assumed all producers receive the same price per kg for their fruit. However, during the fieldwork interviews, slight differences were observed, indicating that (a) the process of negotiating prices did not end at the general meeting and/or (b) processors had preferred suppliers.

Both small and medium-scale producers complained that prices had not changed much over the years. Also, it was observed that smallholders especially seemed to construe the contract condition of renewability as an expectation of regular changes in prices. One smallholder remarked: *'For the past 3 years the price has not changed though the contract is renewable.' (*Fieldwork Interview, 2013). The expectation of price adjustments is not unreasonable, given that costs of production are not stagnant and may increase yearly. Producers were paid the same price for their produce in 2013 as in 2012.

While both small and medium-scale producers were absolute in their agreement that the buyer is the more powerful party in the price setting relationship, it was observed that individual medium-scale producers could exert a bit of influence over the processors' pricing decision. Hence, while smallholders were convinced that, regardless of how much effort they put into negotiating with the processor, the processor always wins, a medium-scale producer indicated his ability to bargain: '*Prices don't change much but your ability to haggle and tell the exporters why. I receive between 0.42 and 045 Euro cents per kg of fruit. Sometimes it goes as high as 0.47 Euro cents.'* (Fieldwork Interview, 2013).

[163] Fruits less than 1.5kg or greater than 1.8kg can be exported based on the size requested by a specific buyer. Also, cut fruit processors prefer fruit sizes up to 1.8 kg because the equipment used to prepare the fruits is calibrated to this size. If the fruits are larger, there is more wastage.

From the above, it would appear that the characteristics of the producer have a bearing on the price he receives. The producer must have some assets, particularly market information, to use in bargaining. A processor admitted to paying a higher price to secure supplies from medium-scale producers because of economies of scale. It was observed that the high domestic demand for Sugar Loaf pineapples enables smallholders in the Ekumfi district who contract with exporters, to use the Esoko platform (a private electronic platform with price information for commodities on the domestic market) for their marketing needs. Prior to negotiating prices with an exporter, they track Sugar Loaf prices on the domestic market to form an idea of how much they should negotiate for.

Some smallholders in the Akwapim South District did not take into consideration all pertinent variables in their cost of production. When questioned about how they calculated their costs of production, I observed that their own labour costs were not included. It is, therefore, likely that, generally, smallholders underestimate their costs of production and are unable to effectively argue for a better price.

Risk Management: Formerly, a processor used to quote prices in Euros; with farmers paid the Ghana cedi equivalent. Recently, the processor began to quote prices in Ghana cedis only. Producers claim it was a unilateral decision taken by the processor without consulting or discussing with them. The advantage to producers of having prices quoted in US dollar or Euro was that it gave them a bit of cover against domestic inflation; although it did not provide them with a cover for exchange rate fluctuations. Despite this, the constant depreciation of the Ghana cedi against the dollar and euro meant that a weakened cedi resulted in a gain for the producer. In 2012, for example, the Ghana cedi depreciated by 17.5%, 18.4% AND 14.9% against the US$, pound sterling and euro, respectively (BoG, 2013). Although a depreciation of the currency may lead to increases in inflation, the proportion of increase in inflation compared with the proportion of the gain from the exchange rate depreciation will determine, the proportion of gains or losses. On the other hand, the current practice of quoting prices in Ghana cedi only implies that the producer is fully exposed to an inflation risk and is also unable to gain from exchange rate depreciation. On the side of the processor, whose accounts are most likely denominated in US$ but operating costs are in Ghana cedi, the continuous depreciation of the Ghana cedi would mean that it is paying more per kg for the fruits it purchases. This affects its profitability.

Although not explicitly confirmed by the processor, the production manager indicated that fruit prices were reviewed when input prices rise and/or the Ghana cedi depreciates.

It was noted previously in Chapter 3 that actors may seek to change the form and content of a transaction when they are not satisfied with it, but that it all depends on their resources, including the ability to act as a collective force. The prices for some producers are still pegged to the Euro indicating that the producers are unable to unite and act as a coherent unit. In the words of a respondent: *'each man fought for himself'* (Fieldwork Interview, 2013). Similarly, Ouma (2015: 159-162) in his study of pineapple outgrowers in the Volta region of Ghana who supplied a fresh-cut exporter, noted the inability of farmers to organise themselves to protest when the company (Tongu Farms) stopped price adjustments, even though costs of production were rising. This was because the company was the only buyer they had: hence the farmers had to put up with the company or exit the chain.

Another stage where power relations play out is the final delivery of fruits. Fruits can be rejected by the processor as not meeting the quality requirements when they get to the processor's packhouse. On the field, the producer, together with the agronomy team of the processor, inspects the fruit, including the brix level, to assess its quality prior to harvesting. When fruits are harvested, they are taken to the processors packhouses where they are recorded.[164] Another quality check however takes place and, usually, the farmer is not present. It is at this second stage that some fruits may be rejected because they do not meet the quality specifications, e.g. brix level.

In such cases, the processor may penalise the producer by adjusting the quantity recorded as delivered. The farmer however is not informed of this decision until he is paid. This leads to misunderstanding and conflict because the farmers perceive any judgements made on the quality of the produce in their absence as biased and most likely in favour of the processor. They were of the view that if these fruits are really rejected because of quality issues, they should be allowed to view them before disposal and allude to the possibility that fruits might have been rejected in order to save the processor some costs. It is possible for producers to appeal against the decision of rejected fruits and be given some concession; '*…I disputed it but later they paid a little amount. I asked for the criteria for reject and*

[164] The farmers transport their produce to the processor. Some medium-scale producers' own trucks while others hire trucks.

stated that they should have informed me before payment' (Fieldwork Interviews, 2013). This was from a medium-scale producer cultivating 80 acres of land. Smallholders seemed to accept the decision made without contesting it.

7.8.5.2 Interactions between Exporters and Importers

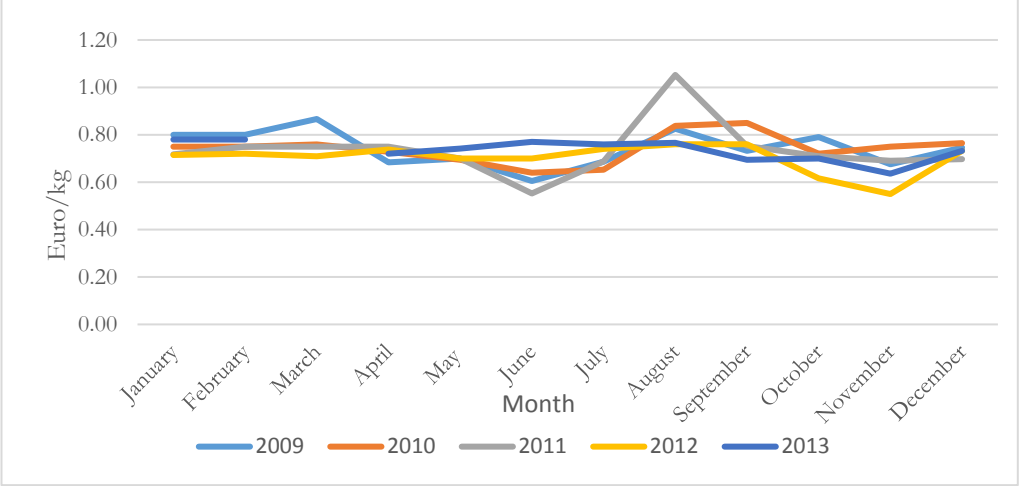
The main instrument identified in this study by which importers and/or supermarkets can have power over exporters is the price of the product. As mentioned earlier on in Chapter 4, the global pineapple market has an oligopsonistic market structure with few buyers and many sellers. Retailers (supermarkets) have preferred suppliers (importers) with whom they engage in long-term contracts. In these contracts, exact volumes and prices are agreed upon a week or two before shipment (CBI, 2009). As some supermarkets require importers to send in price quotes in advance every week or two, supermarkets can force prices downwards by playing suppliers against each other (CBI, 2009). The exact process of price determination is unclear as the importer interviewed in this study declined to explain the process of price determination when asked. He only commented that the price paid to exporters took into consideration prevailing market prices and the cost of production.

Reflective of the practice of constant adjustments in prices, an exporter commented that *'Contracts are perfunctory'* (Fieldwork Interviews, 2013) although they interact through written contracts. In some cases, an email correspondence between an importer and an exporter was enough to conclude on volumes and prices. Since the mid-2000s, pineapple prices have declined to erode the mark-ups which were earned at the beginning of the MD2 era. In Ghana, a senior official of SPEG commented: *'When the changeover came, because production was not much, those who were able to change over quickly had windfalls. At that time, I'm told a box of MD2 of 12kg could fetch 18 or 22 Euros. Today, for a box of 6 if you get 4.5 then you're [well off], the margins are minimal. So, the efforts will be at reducing cost of production because the price levels don't change much except for specific periods in the year, maybe Christmas and Easter. Because of that exporters plan their production in such that their high volumes come in those specific periods. Their margins are certainly not the best now, and it's a reason why expansion is low now and there's always tension all over the place.'* (Fieldwork, 2013).

Compared with the price exporters were formerly receiving for Smooth Cayenne (Section 7.6.2), the price of MD2 is lower (Figure 7.5).[165]

[165] Due to the inability to find consistent and accurate data on wholesale prices of pineapples for Ghana and

Figure 7.5: Average monthly whole price of MD2 pineapples from Ghana (2009-2013)



Note: Data refers to the Marseille Quai wholesale market
Source: RNM France Agrimer

Currently, slight variations in prices across producing countries are mainly a reflection of transport and domestic conditions of production. During the fieldwork period, exporters indicated that a box of pineapples from Ghana is sold at €3. The cartons are priced at €1 each, meaning that exporters have only €2 in which to reduce costs and improve upon their profit margins. Transportation costs are fixed (and high) while reliance on external sources for packaging and inadequate access to finance further squeeze their profitability and opportunities for growth. Products from Costa Rica earn higher prices than Ghana: '*They [Costa Rica] will get higher, the reason being that they are known to be consistent in quality and volumes. I think last year the GIZ sponsored some of us to Germany. After the fair, we went to some companies in Germany to sell our products. Some of the places we went, their first [option] is Costa Rica before they will come and talk about Ghana and they are prepared to pay a little more for Costa Rica pineapple.*' (Fieldwork, 2013). Prices of top brands (e.g. Dole, Del Monte) also command a premium over standard brands.

Thus, the price Ghanaian exporters get for their produce depends on the quality, brand name and the retail outlet. Ghanaian exporters and buyers negotiate prices at the beginning of the year. Exporters indicated that though this price is supposed to be fixed for the year, buyers (supermarkets) are able to dictate or impose a price on the exporter: *'You have some minimum levels that you require so you're able to agree with the buyer on the pricing level in the course of*

the other countries, the Marseille Quai market data was used.

the year and payment terms but sometimes some of the market situations are such that for some periods and reasons, the negotiated terms have to be varied for some reason agreeable to both sides' (Fieldwork interview).

JIT practices of supermarkets enable them to easily switch supply whenever needed. In cases where (a) supermarkets are interested in keeping consumer prices stable or are offering promotional sales to consumers(b) there is an abundance of pineapple fruits (c) in the summer periods when other fruits are available they sometimes offer a take-it-or-leave-it price (which is usually lower than the agreed contract price) to the exporter; *'They may even tell you, from this time to this time, we will buy at this price'* (Fieldwork interview, 2013).

The perishable nature of the produce, as well as the need to maintain a business relationship, tilts the balance of power away from the exporter: *'Because they receive and sell, they control most of the power. Unlike you having this phone or whatever and you put it on a shelf in Paris and say €10 so you can sell, with fruits sometimes it is not pre-determined like that. The market situation dictates what happens. You might even have an arrangement that we're selling to you at this price but the market conditions can change and sometimes you may not get what you want. The power is more on their side and because it's fresh fruit [it needs to be consumed]…ahaa, and that's the problem. If it were plastics then you could say ok, if the market is not good this week, keep it [laughs], but we don't have that privilege'* (Fieldwork Interview, 2013).

A combination of buyer strategies and asset specificity increases the cost of exporters switching from one buyer to the other though buyers can easily switch when they find an alternative lower-cost supplier. When questioned on the ease of switching buyers, a production manager responded: *'In fact, the same country, it's not easy unless they're far apart. But most of the time, they wouldn't want you to sell to another buyer in the same area. So, Switzerland for example, we are on only one supermarket chain. And then in Spain, we were dealing with two customers. Along the line one pulled out but even there we have to use two different labels. Even though [exporter's name] is on them, one must be different. The colour and appearance is different.'*

7.9 Concluding Remarks

The change in the characteristics of the item exchanged on the global pineapple market has caused a significant restructuring of the Ghanaian chain. The response of exporters and smallholders in Ghana's pineapple export chain was mostly driven by local conditions. The

local economic condition is an important determinant of the development of value chains. From 2005 to 2008, local economic and political conditions were not conducive to the competitiveness of the chain. The chain's competitiveness depended on its ability to respond efficiently and in a timely manner to changes in the characteristics of the item exchanged. This could only be achieved with the right supporting environment. Restrictive financial conditions constrained the ability of firms and smallholders to finance new investments and upgrade to global standards. Also, apart from the initial financial investment government made into suckers, no other financial incentives targeted at producer-exporters were forthcoming. The late implementation of development programmes by development agencies further added to the inability of most producer-exporters and smallholders to quickly find their place in the global chain. The effect of these local conditions was an increase in already high production and transaction costs; diminishing the chain's capacity to impact the entire economy as exporters turned to vertical integration rather than contracting with smallholders.

In the period 2009 to 2013, governance of the chain has evolved to captive and/or hierarchy. Although small and medium scale producers operate under captive governance, the evidence presented in this chapter points to the significant effects of contractual relations on producing quality fruits, ensuring reliability of supplies and stable (if not) higher incomes for producers. Knowledge transfer is more structured in the chain, and there is evidence of unintended spill over of knowledge from pineapple cultivation to food crops like cassava and maize.

Horizontal collaboration by exporters is reducing their cost levels as well as improving the reputation of the country as a producer of high quality pineapple fruits. It has also increased the visibility and voice of exporters, as indicated by their ability to lobby the government to grant them access to the government's fertiliser subsidy scheme. Also, the study shows that horizontal collaboration has been key to the upgrading of farmers. The study finds evidence that through farmer cooperatives, farmers can access services which they were previously excluded from. Furthermore, self-monitoring by members of the group means that coordination costs in the chain are reduced, improving the growth and development of the entire chain.

Overall, competitiveness of the chain is still stifled by local financial conditions and the seeming lack of long-term strategies to support horticulture research. Exporters, processors

and development agencies do their best to acquire and transfer knowledge; but if the country is to improve its position in the global chain, as well as diversify into other horticulture products, research and development issues must be addressed.

Chapter 8 Summary, Conclusion and Implications

8.1 Introduction

Governance in the GVC framework is essentially focused on what lead firms do and the outcomes for suppliers 'moving up' the global chain. However, this focus limits the explanatory ability of the framework when applied to governance and development of local or national value chains. The reason is that the institutional dimension of the framework (specifically the local context) is considered to be passive. To rectify this deficiency, value chains need to be embedded in their locations (Bair, 2005; Dussel Peters, 2008).

This study takes up the call to embed value chains in their locations and aimed at contributing to the theoretical discussion on what governance is, what should be considered as the institutional dimension in GVCs and its role in governance. In this study, it has been argued that the definition of governance can be broadened to include other rules and actors that exert power or influence over the actions and behaviour of value chain participants (Section 2.9.3). The institutional dimension can also be identified as local conditions or the local context. Lead firms' conditions of participation in the global chain influence the characteristics of the item exchanged between suppliers at the local level. To link the global and local levels and characterise how changes in global governance actually play out at the local level, the study developed a conceptual framework which brings together the power of lead firms with the EC approach. This makes possible the identification and elaboration of how specific local conditions also affect the governance (form and content of transactions) and development of chains.

Based on the case of the Ghanaian pineapple export sector, this study concludes that local chain governance is co-determined by the effect of both global and local conditions on production and exchange relationships in the chain. Also, the prospects for development of the chain crucially hinge on local conditions. The study came to these conclusions by investigating one overarching research question: ***'How, and in what way, do local conditions impact or influence value chain governance?'***

Three secondary research questions were further examined to assist with answering the overarching research question. They are:

Q1: How, and in what way, do local conditions shape or structure production and exchange relations between and among suppliers at the local level?

H1.1: Local conditions may impose constraints or create opportunities which directly and indirectly influence the behaviour of actors in their interactions.

Q2: What impact do changes in global governance have on production and exchange at the local level?

H2.1: Global governance alters the characteristics of the item exchanged (product characteristics) and elicits corresponding changes in the characteristics of actors in order to meet the new product requirements.

H2:2: Given the existing structure of interactions, the new product characteristics may increase supplier's production and transaction costs.

Q3: How, and in what way, do local conditions negotiate or mediate the impact of new product characteristics on suppliers and the development of the chain?

H3.1: Local conditions may provide an enabling setting for the development of the chain by altering the rules underlying production and exchange in the chain.

This last chapter of the thesis is divided into five sections. Following the introduction, Section 2 summarises the key findings and conclusions of the study and uses them to answer the research questions posed above; Section 3 discusses implications of the findings for both theory and policy; Section 4 identifies the limitations of the study; and Section 5 presents an outlook for future inquiry.

8.2 Key Findings

In this section, I provide answers to the study's main research question by presenting the key evidence found in Chapters 6 and 7 in response to the questions posed above. However, before I do so, I will summarise the chapters of the entire thesis. The thesis was structured into 8 chapters. In Chapter 1, the motivation for undertaking the research, the research questions and the possible contributions of the study were outlined. The GVC framework was discussed in Chapter 2, with the aim of understanding what governance means and how the local context could contribute to the explanatory ability of the GVC framework. A review of the empirical literature identifies actors such as, the state (government), public organisations, collective action organisations and even firms themselves, as influencing governance, its evolution and the development of the chain.

They do so through policies, strategies, and the provision of infrastructure, among others (Selwyn, 2008; Neilson and Pritchard, 2009; Oro and Pritchard, 2011).

In Chapter 3 of the thesis, a conceptual framework to assist with answering the overarching research question was formulated. The conceptual framework, by combining GVC analysis and the EC approach, focused on the role local conditions play in GVC governance in interacting with global governance. It was envisaged that lead firms could restructure the chains on which local suppliers operate (i.e. interactions in related exchange configurations can impact a configuration under examination). In the local configuration, the impact of global governance is experienced by suppliers through the altering of the characteristics of the item exchanged (product characteristics). With the new product characteristics (and therefore a change in the elements of the existing exchange configuration), suppliers in the chain must make decisions and choices concerning how they interact. Their decisions and choices are partly dependent on their characteristics. At the same time, local conditions can and do directly and indirectly impact the decisions and choices of internal actors. Local conditions constrain, support or enlarge the choice set available to the actors, thus playing a role in the governance and development of the chain. Chapter 4 discussed the evolution of the global pineapple value chain, especially the rise of Costa Rica and the decline of Ghana. Chapter 5 outlined the research design and process.

Based on the conceptual framework, Chapter 6 provided empirical evidence for Q1 and confirms H1.1. Local conditions that actively shaped production and exchange in the chain were: (a) government policy (b) strategies of donor organisations (c) informal norms in business interactions (d) incentives to spread risks (e) access to and affordability of capital and (f) market uncertainty. Economy-wide incentives for NTE promotion initially attracted exporters to participate in the chain; but as exports increased, existing marketing, knowledge and infrastructure gaps became more visible and pronounced. These negatively affected the consistent and reliable supply of quality fruits. On one hand, certain local conditions, for example, high interest rates together with actors' characteristics constrained the accessibility and affordability of finance for both smallholders and exporters. On the other hand, the lack of monitoring and enforcement mechanisms at the local level was an opportunity, for both exporters and smallholders, to use oral contracts as a risk management mechanism. Significantly, the lack of influence by indirect internal actors (i.e. government, development agencies and SPEG) over the form and content of transaction was a crucial determinant of the competitiveness and development of the chain. Lack of

cooperative behaviour by exporters meant that the chain could only compete on prices and not quality. Also, government's failure to provide sector-wide infrastructure imposed constraints on the actions and choices of exporters. One significant way in which this was exhibited was the fact that without sector-wide infrastructure, any individual investments made to raise the quality of fruits on-farm would be futile off-farm. Overall, how transactions were governed in the chain confirm the embedding of the chain in a local context which did not have the (right) capacity to engage with the stringent rules of participation in the value chain that was later demanded by lead firms.

Chapter 7 provided a detailed analysis of the evolution of governance in the Ghanaian pineapple export sector and its impact on the development of the chain. The analysis was informed by secondary data and interviews carried out with 68 participants of the Ghanaian chain in 2013. The information gathered was used to map out the current structure of the Ghanaian pineapple value chain (Figure 5.1). It was confirmed, regarding H2.1 and H2.2, that changes in the product characteristics, (i.e. the MD2 innovation, the application of standards and retailer's requirements) increased both production and transaction costs in the chain. In Sections 7.3 and 7.5, MD2 and the application of standards increased human, physical, temporal, and intangible asset specificity in the local chain. Such increases in transaction costs favoured closer relationships between exporters, processors and smallholders or otherwise exclusion from the chain. Whichever way the chain was to go, depended on the characteristics of exporters and smallholders and the influence of local conditions on their interactions.

In answering Q3, H3.1 was partly confirmed and partly refuted. The key findings on which this assertion is based are summarised as follows. First, although the initial trigger to upgrade the chain came from exogenous actors, the strategies and tactics of endogenous actors did more to encourage the ability of direct internal actors to (re)integrate into the chain and make quality products. In the Ghanaian context, it involved a shared process which required the cooperation of all endogenous actors. Non-firm actors (i.e. the government and development agencies) were much more significant actors in accounting for the ability of exporters and smallholders to first (re)integrate into the chain in the 2005 to 2008 period. Thus, they assisted with improving the quality of pineapples produced and cultivated through interventions which made available planting materials, infrastructure and technical assistance to both smallholders and exporters.

These interventions were however of limited significance to the integration of smallholders into the chain, because indirect internal actors did not address the issue of finance to acquire MD2 suckers and, more importantly, to implement the required standards. The inability to access and afford finance was a major determinant of why smallholders exited the chain.

Second, the study finds that in extremely low level trust situations it is extremely difficult to engender trust through policy interventions. Rather, repeated interactions and what the actors actually do are more important. Repeated interactions between small and medium-scale producers and processors had laid the ground for cooperative behaviour. However, given the high costs of production and limited market outlets, the actions of processors have more impact on engendering trust. Flexible and prompt payments as well as frequent and open communication, engender trust in their relationship with small and medium-scale producers. In addition, the use of contracts in the chain assisted small and medium-scale producers to improve the quality of their produce. Although this may not necessarily translate into higher prices for their produce, contracts provide a security of expectations and stability in incomes which previously was not the case in the chain.

Third, aside from the standard idea of vertical relationships driving development in the chain, the evidence in the study confirms Selwyn's view (2008) that horizontal relationships also matter for development. The inability of exporters to collaborate had a detrimental effect on their ability to lobby government to assist with the challenges in the chain. On the other hand, the current engagement of SPEG in marketing and branding activities can be conceived of as process upgrading. Also, smallholder participation in the chain using cooperatives allows them to have economies of scale and to access technical assistance and market opportunities.

Fourth, price risk in the chain can be managed with developments in technology at the local level. Although the contracts used in the chain serve as a risk management tool, both the MD2 and Smooth Cayenne strands of the chain lack the mechanisms to collect data on prices which are essential to the bargaining power of smallholders. On the other hand, the use of mobile technology to gather information on domestic prices of Sugar Loaf serves as an effective tool in accessing knowledge and hence improves their bargaining position.

In general, the evidence provided in the study demonstrates that the opportunities presented by global governance to participants of a value chain are better exploited when there are local conditions which enable their inclusion and participation. On the other hand, the challenges presented by global governance are exacerbated when facilitating local conditions are missing or not fulfilled. Considering this, it is my view that the exclusion of small and medium-scale producers from the whole fruit strand of the chain was largely due to local conditions.

8.3 Implications

This thesis has investigated how the local context shapes chain governance. It represents an attempt to broaden the GVC governance literature's exclusive focus on global characteristics in the determination of chain governance. The evidence presented in the thesis contributes to the theoretical and empirical understanding of the relationship between participation in GVCs and the development goals of agriculture value chains in developing countries.

8.3.1 Implications for Theory

The thesis makes two contributions to theory. First, analytically, it successfully embeds a value chain in the place where it is situated. By doing so, it coherently and systematically includes location specificity in the analysis of value chains and allows the GVC framework to give a more satisfactory account of why participation in GVCs may or may not lead to development.

Second, the evidence provided by the study has implications for upgrading in GVCs. GVC upgrading theory assumes that suppliers and lead firms first have a relationship, and then lead firms impart knowledge for upgrading to take place. However, when suppliers do not contract directly with lead firms but through intermediaries, such as importers, the traditional notion of upgrading may not hold. In reality, product upgrading may serve as a means to access a chain. Suppliers may have to build up capabilities before they engage in a business relationship (Morrison, Pietrobelli and Rabellotti, 2008). The capabilities to do so may depend on their own characteristics, but more importantly on favourable local conditions (Gibbon, 2008).

The analysis in this study supports this view, and further extends it. The study

demonstrates that product upgrading, for example, may involve a series of steps which may not necessarily result in higher prices; in the short or long term. Product upgrading may be necessary just to ensure that market access is retained. The MD2 innovation required that suppliers upgrade by first acquiring the raw material to make a completely new product, before they could (re)integrate into the chain. After making the necessary adjustments to procure MD2 suckers, they had to acquire knowledge and other capabilities. Between 2005 and 2008, exporters who had upgraded to MD2 production endured low prices; to maintain market access. Thus, upgrading may not involve 'moving up' the chain or enjoying higher prices.

8.3.2 Implications for Policy

First, the main objective of promoting NTEs in the Ghanaian context is to diversify the economy and promote poverty reduction (see Chapter 1). In the case of Ghana, the restructuring of the pineapple value chain shows the limitations of using non-traditional export agriculture as a rural development strategy; especially in the absence of consistent and committed strategies. Deliberate construction of incentives, can and must be used to achieve, maintain or increase competitiveness in global value chains. Although government policy is relegated to the background in the GVC framework, the example of Costa Rica (Sections 4.3.2.2 and 6.6) shows that policy is integral to the success of value chains. The embedding of the chain in a dense network which promoted knowledge transfer, research and financial assistance was the decisive factor in integrating smallholders into the chain. Lessons learnt from Costa Rica indicate that the government of Ghana must (a) identify and target key chains or sectors and (b) promote the formation of an organisational network of relations consisting of research organisations, government agencies, exporters and others.

Related to the above is the fact that smallholders are integrated into the whole fruit strand of the chain through their participation in cooperatives. Cooperatives make possible the attainment of sufficient volumes to attract exporters and access to technical assistance. However, the cooperatives lack capabilities which can make them sustainable after the implementation of development interventions. Government must invest in the capabilities of these cooperatives to build up the competitiveness of new strands of the value chain.

Second, the deliberate targeting of key chains or sectors is made more imperative by the current challenges facing Smooth Cayenne production. These challenges are occurring in the context of increasing global demand for Smooth Cayenne. Steps must be taken by government to ensure that small and medium-scale producers who are extremely proficient in producing Smooth Cayenne, are not excluded from the chain. The role of government should be to undertake research and disseminate knowledge and information on how to address the agronomic challenges being experienced by producers.

Third, local or regional market opportunities must be explored for Smooth Cayenne production. It is estimated that fruit juice capacity in the country is between 20,000 to 30,000 tonnes but actual production is far lower: while fruit juice imports are about 21,000 tonnes (World Bank, 2011a). These indicate that there are available opportunities in the fruit juice market that could be harnessed.

Fourth, policies to integrate into value chains should focus not only on the smallholder, but also the exporter or processor. There are limitations to the use of NTEs as an export diversification and poverty reduction tool especially without the state playing an active role in linking them to markets, knowledge and technology. Interventions aimed at the export node of the chain may have a greater impact on all producers. Exporters admitted that they had orders which they could not fulfil. Yet they do not contract with smallholders because they do not have the finances. Exporters must be incentivised to link up with smallholders through policies directly targeting their linkage with smallholders. Such policies and strategies will end up benefitting the exporter, the smallholder, and the state.

Lastly, the evidence provided in this study shows that to ensure interventions by development agencies are more successful, there is the need to delve deeper into the characteristics of intended recipients. The failure of the MiDA Agriculture Fund shows that smallholders (especially those who cultivate different crops) have different characteristics, even if they are defined in terms of the land size cultivated or are in the same locality.

8.4 Limitations

The study has three limitations. First, some potential respondents could not be accessed because their identification and access depended on the granting of permission by the exporters they interacted with. Where the exporters declined to participate in the study,

such respondents could not be accessed. Second, the study was unable to empirically measure the extent to which contract is used as a risk reduction or risk management tool due to lack of data. Third, the fieldwork for the study was carried out in 2013, with the possibility that the structure and dynamics captured by the study may have changed.

8.5 Directions for Future Research

Based on the findings in this study, further research in four areas is relevant. First would be to apply the study's conceptual framework to either a traditional agriculture export crop and/or a multiple case study, with a view to highlight how the same or different local conditions interact and impact the structure of governance and outcomes.

Second, to deepen our understanding of the poverty reduction role of GVCs in developing countries, future research might focus on new patterns of labour use in the Ghanaian pineapple export chain, as these create both risks and opportunities for participants. Barrientos et al. (2009) investigated the use of migrant labour in the Ghanaian chain and noted that 45% were temporary and casual workers who worked all through the year but did not enjoy benefits associated with a permanent job. Currently, on small and medium-scale farms, farmers have mainly shifted to the use of 'permanent' labour for certain activities which are crucial to their continued participation in the chain, while wage employment is used on farms owned by producer-exporters. Do these new patterns influence productivity of labour and employment conditions such as the wage level and the length of employment? Insights into how labour is integrated into the chain, the conditions of employment and the impact on rural employment are important for poverty reduction goals of the country.

Third, a more in-depth analysis of risk in the chain can be carried out, as risk allocation and risk management in value chains are often neglected. As exporters no longer contract with smallholders and outgrowers, it would be interesting to investigate the mechanisms used by exporters and their effectiveness and impact on the development of the chain. Also, what could be the possible trade-off between income levels and sustainability of the chain, since smallholders and medium-scale producers have limited market outlets.

Lastly, a study on the potential of farmers participating in both an export crop and domestic food crop value would be appropriate. Based on the finding of this study, food

security initiatives can tap into the knowledge that participation in the pineapple value chain brings to a farmer. Even though most farmers do not grow any food crops for sale or do so for subsistence, they indicated that they have transferred pineapple production knowledge to food crops such as maize and cassava and had noticed improvements in yields. In addition, farmers have access to more land than they currently cultivate and with the right incentives could be encouraged to participate in the domestic food crop market.

Bibliography

Abbey, A., 2005. 'The Effect of Pineapple Farming on the Livelihood of Pineapple Farmers in the Ga Districts.' Thesis submitted to the University of Ghana for the award of MA Development Studies Degree.

ACDI/VOCA, 2015. 'Renewing Smooth Cayenne Pineapple Production in Ghana.' Published January 9, 2015. Available at: http://www.acdivoca.org/2015/01/renewing-smooth-cayenne-pineapple-production-in-ghana/

Addo E., and Marshall, R., 2000. 'Ghana's Non-Traditional Export Sector: Expectations, Achievements and Policy Issues.' Geoforum, Vol. 31, Number 3, pp. 355-370.

African Development Bank (AfDB), 2005. 'Ghana Export Marketing and Quality Awareness Project (EMQAP).' Appraisal Report. Agricultural and Rural Development Department (OCAR). Available at: http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Ghana_-_Export_Market_and_Quality_Awareness_Program_Appraisal_Report.pdf

African Union (AU), 2006. 'Abuja Declaration on Fertilizer for the African Green Revolution.' Available at: http://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/african-fertilizer-financing-mechanism/abuja-declaration/

Ahold, 2002. 'Ghana: Sustainable Horticultural Export Chain.' Report prepared by Agricultural Economics Research Institute (LEI) and Michigan State University (MSU).

Alchian, A. A., 2008. 'Property Rights.' The Concise Encyclopaedia of Economics.' Available at http://www.econlib.org/library/Enc/PropertyRights.html.

Altenburg, T., 2007. 'Donor approaches to supporting pro-poor value chains.' Report prepared for the Donor Committee for Enterprise Development Working Group on Linkages and Value Chains. Bonn: German Development Institute.

Altenburg, T., 2006. 'Governance Patterns in Value Chains and their Development Impact.' The European Journal of Development Research.' Vol. 18, No. 4, pp. 498-521.

Amanor, K. S., with Diderutuah, M.K., 2001. 'Share Contracts in the Oil Palm and Citrus Belt of Ghana.' London: International Institute for Environment and Development.

Amin, A., and Thrift, N., 1994. 'Living in the Global.' In: A. Amin and N. Thrift (eds.), *Globalization, institutions, and regional development in Europe,* New York: Oxford University Press, Chapter 1, pp. 1-22.

Ampadu-Agyei, O., 1994. 'Non-Traditional Agricultural Exports and Natural Resource Management in Ghana: Practices and Prospects.' Center for International Development and Environment World Resources Institute.

Angelucci, F., 2012. 'Analysis of Incentives and Disincentives for Maize in Ghana.' Technical notes series, MAFAP. Rome: FAO.

Aoki, M., 2007. 'Endogenizing institutions and institutional changes.' Journal of Institutional Economics. Vol. 3, No. 1, pp. 1-31.

Armstrong, R., 1996. *Ghana Country Assistance Review: A Study in Development Effectiveness*. Washington DC: The World Bank.

Aryeetey, E., 1996. 'The Formal Financial Sector in Ghana after the Reforms.' Overseas Development Institute (ODI) working paper No. 86.

Aryeetey, E., and Harrigan, J., 2000. 'Macroeconomic and Sectoral Developments since 1970.' In: E. Aryeetey, M. Nissanke and J. Harrigan (eds.), *Economic Reforms in Ghana: The Myth and the Mirage*. Oxford, UK: James Curry Ltd. Chapter 1 pp. 5 – 31.

Aryeetey, E., and Kanbur, R., 2008. 'Ghana's Economy at Half Century: An overview of Stability, Growth and Poverty.' In: E. Aryeetey and R. Kanbur (eds.), *The Economy of Ghana: Analytical Perspectives on Stability, Growth and Poverty,* UK: James Curry, Chapter 1, pp.1-19.

Asiedu, E., and Fosu, K., 2008. 'Importance of Agricultural Credit in Ghana's Credit Sector: A Logit Model Analysis.' World Bank/African Development Bank's African Economic Conference, Tunis 2008.

Asuming-Brempong, S., 2003. 'Economic and Agricultural Policy Reforms and their Effects on the Role of Agriculture in Ghana.' Roles of Agriculture Project, International Conference 20-22 October, 2003. Rome, Italy.

Bain, C., 2010. 'Governing the Global Value Chain: GLOBALGAP and the Chilean Fresh Fruit Industry.' International Journal of Sociology of Agriculture and Food. Vol. 17, No.1, pp. 1-23.

Bair, J., 2008. 'Analysing Global Economic Organization: Embedded Networks and Global Chains Compared.' Economy and Society. Vol. 37, Issue 3, pp.339-364.

Bair, J., 2005. 'Global Capitalism and Commodity Chains: Looking Back, Going Forward.' Competition and Change, Vol.9, No.2, pp.153-180.

Bair, J., and Werner, M., 2011a. 'Commodity Chains and the Uneven Geographies of Global Capitalism: A Disarticulations Perspective.' Environment and Planning A, Volume 43, No.5, pp.988 – 997.

Bair, J., and Werner M., 2011b. 'The place of disarticulations: global commodity production in La Laguna, Mexico.' Environment and Planning A. Vol. 43, No.5, pp. 998–1015.

Bair, J., and Dussel-Peters, E., 2006. 'Global commodity chains and endogenous growth: Export dynamism and development in Mexico and Honduras.' World Development, Vol.

34, No. 2, pp. 203-21.

Bair J., and Gereffi, G., 2001. 'Local Clusters in Global Chains: The Causes and Consequences of Export Dynamism in Torreon's Blue Jeans Industry.' World Development. Vol. 29, No.11, pp. 1885-1903.

Baker, G., Gibbons, R., and Murphy, K.J., 1997. 'Implicit contracts and the theory of the firm.' National Bureau of Economic Research (NBER). Working paper No. 6177.

Balassa, B., 1985. 'Exports, Policy Choices and Economic Growth in Developing Countries after the 1973 Oil Shock.' Journal of Development Economics. Vol. 18, No.2, pp. 23-35

Bamber, P., Fernandez-Stark, K., Gereffi, G. and Guinn, A., 2013. 'Connecting Local Producers in Developing Countries to Regional and Global Value Chains – Update.' OECD Trade Policy Paper No. 160, TAD/TC/WP (2013)27/FINAL

Banful, A. B., 2009. 'Operational Details of the 2008 Fertilizer Subsidy in Ghana – Preliminary Report.' GSSP Background Paper 18. Washington D.C: IFPRI

Bank of Ghana (BoG), 2014. 'Annual Report, 2013.' Editorial Committee of the Bank of Ghana.

Bank of Ghana (BoG), 2013. 'Annual Report and Accounts 2012.' Bank of Ghana website.

Bank of Ghana (BoG), 2008. 'Annual Report and Accounts 2007.' Editorial Committee of the Bank of Ghana.

Bank of Ghana, 2003. 'Financial Implications of Liberalising Cocoa Marketing.' Sector Study Reports. Bank of Ghana Research Department.

Bardhan, P.K., 1980. 'Interlocking factor markets and agrarian development: A review of issues.' Oxford Economic Papers. Vol. 32, No. 1, pp.82-98

Barham, B., Clark, M., Katz, E., and Schurman, R., 1992. 'Nontraditional agricultural exports in Latin America.' Latin American Research Review, Vol. 27, No. 2, pp. 43-82.

Barrett, C., and Mutambatsere, E., 2008. 'Agricultural Markets in Developing Countries.' In: L.E. Blume, S.N. Durlauf (eds.), *The New Palgrave Dictionary of Economics*. London: Palgrave Macmillian, 2nd Edition, Available at: http://ssrn.com/abstract=1142518.

Barrett, C.B, Bachke, M.E., Bellemare, M.F., Michelson, H.C., Narayanan, S., and Walker, T.F., 2012. 'Smallholder Participation in Contract Farming: Comparative Evidence from Five Countries.' World Development, Vol.40, No.4, pp.715-730.

Barrientos, S., Gereffi, G., and Rossi, A., 2011. 'Economic and social upgrading in global production networks: A new paradigm for a changing world.' International Labour Review. Vol. 150, Issue 3-4, pp. 319-340

Barrientos, S., and Asenso-Okyere, K., 2009. 'Cocoa value chain: challenges facing Ghana

in a changing global confectionary market.' Journal fur Entwicklungspolitik. Vol. 25, No. 2, pp.88-107.

Barrientos, S., Anarfi, J., Lamhauge, N., Castaldo, A., and Anyidoho, N.A.,2009. 'Social Protection for Migrant Labour in the Ghanaian Pineapple Sector.' Development Research Centre on Migration, Globalisation and Poverty, University of Sussex. Available at: http://www.migrationdrc.org/publications/working_papers/WP-T30.pdf.

Barrientos, S., and Smith, S., 2007. 'Do workers benefit from ethical trade? Assessing codes of labour practice in global production systems.' Third World Quarterly. Vol. 28, No. 4, pp. 713-729.

Barrientos, S., and Kritzinger, A., 2004. 'Squaring the circle: global production and the informalization of work in South African fruit exports.' Journal of International Development. Vol. 16, Issue 1, pp. 81-92.

Barrientos, S., Dolan, C., and Tallontire, A., 2001. 'Gender and ethical trade: A mapping of the issues in African horticulture.' National Resource Institute (NRI) Report No. 2624, London.

Bartholomew, D. P., Rohrbach, K. G. and Evans, D. O., 2002. 'Pineapple cultivation in Hawaii.' Fruit and Nuts 7: 1–8. Available at: http://www.ctahr.hawaii.edu/oc/freepubs/pdf/f_n-7.pdf

Baumann, P., 2000. 'Equity and Efficiency in Contract Farming Schemes: The Experience of Agricultural Tree Crops.' Overseas Development Institute (ODI), Working paper 139.

Bazan, L., and Navas-Alemán, L., 2004. 'The Underground Revolution in the Sinos Valley: A comparison of Upgrading in global and National Value Chain.' In: H. Schmitz (ed.), *Local enterprises in the global economy: Issues of governance and upgrading.* Cheltenham: Edward Elgar. Chapter 5, pp. 110-139.

Beck, T., 2011. 'The Role of Finance in Economic Development.' Benefits, Risks and Politics.' European Banking Center Discussion Paper No. 2011-038

Bell, C., 1988. 'Credit markets and interlinked transactions.' In: H.B. Chenery and T. N. Srinivasan (eds.) *Handbook of Development Economics*. Vol.1. Amsterdam: Elsevier Science Publishers B.V., Chapter 16, pp. 763-830.

Bell, M., 1984. 'Learning' and the Accumulation of Industrial Technological Capacity in Developing Countries.' In: M. Fransman and K. King. (eds.), 1984. *Technological Capability in the Third World.* London: The Macmillan Press Ltd., pp.187-209.

Bell, C., Srinivasan, T.N., and Udry, C., 1997. 'Rationing, Spillover, and Interlinking in Credit markets: The Case of Rural Punjab.' Oxford Economic Paper. Vol. 49, Issue 4, pp. 557-585.

Bell, M., and Pavitt, K., 1993. 'Technological accumulation and industrial growth: contrast

between developed and developing countries.' Industrial and Corporate Change. Vol.2, Issue 2, pp. 157-210.

Benin, S., Johnson, M., Abokyi, E., Ahorbo, G., Jimah, K., Nasser, G., Owusu, V., Taabazuing, J., and Tenga, A., 2013. 'Revisiting Agricultural Input and Farm Support Subsidies in Africa: The Case of Ghana's Mechanisation, Fertiliser, Block Farms and Marketing Programmes.' Discussion paper 01300, IFPRI.

Berg, B. L., 2004. *Qualitative research methods for the Social Sciences*. 5th edition. USA: Pearson Education, Inc.

Berger, S., 2000. 'Globalization and Politics.' MIT IPC Globalization Working Paper 00-005. Annual Review Political Science. Vol 3, pp. 43–62.

Bernstein, H., and Campling, L., 2006. 'Commodity studies and commodity fetishism 1: Trading down.' Journal of Agrarian Change. Vol. 6, Issue 2, pp.239-264.

Bevir, M., 2011. 'Governance as Theory, Practice, and Dilemma.' In: M. Bevir (ed.) *Handbook of Governance*. London: Sage Publications Ltd. Chapter 1, pp. 1-16.

Binswanger, H. P., and Rosenzweig, M.R., 1986. 'Behavioural and Material Determinants of Production Relations in Agriculture.' Journal of Development Studies. Vol. 22, No. 3, pp. 503–539.

Boggs, J., and Rantisi, N. 2003. 'The "relational turn" in economic geography.' Journal of Economic Geography. Vol. 3. Issue 2, pp 109–116.

Bolwig, S., Gibbon, P., and Jones, S., 2009. 'The economics of smallholder organic contract farming in tropical Africa.' World Development. Vo. 37, Issue 6, pp. 1094-1104.

Bolwig, S., Ponte, S., du Toit, A., Riisgaard, L., Halberg, N., 2010. 'Integrating Poverty and Environmental Concerns into Value Chain Analysis: A Conceptual Framework.' Development Policy Review. Vol. 28, No.2, pp.173-194.

Bond, M. and Milne, E., 1987. 'Export Diversification in Developing Countries. Recent Trends and Impact.' In IMF Staff Studies for World Economic Outlook. Washington, D.C: International Monetary Fund. Chapter IV, pp.98-143.

Bordo, M. D., Eichengreen, B. and Irwin, D. A., 1999. 'Is globalisation today really different from globalisation a hundred years ago?' NBER Working Paper No. 7195.

Borensztein, E., De Gregorio, J. and Lee. J-W., 1995. 'How Does Foreign Direct Investment Affect Growth?' National Bureau of Economic Research (NBER). Working Paper Number 5057.

Botella Rodríguez, E., 2014. 'Costa Rica's outward-looking development: from 'Agriculture of Change' to food insecurity (1990-2008).' Sociedad Española de Historia Agraria -

Documentos de Trabajo.

Botella Rodríguez, E., 2015. 'Outward-looking development in Costa Rica: opportunities and problems for small farmers in the early 2000s.' Revista Española de Estudios Agrosociales y Pesqueros, No. 242, pp.89-134.

Busch, L., and Bain, C., 2004. 'New! Improved? The transformation of the Global Agrifood System.' Rural Sociology. Vol. 69, Issue 3, pp. 321–346.

Cafaggi, F., Swensson, L. F. J., Macedo Jr., R.P., E Silva, T.A., Gross, C.P., de Almeida, L. G. and Ribeiro, T.A., 2012., 'Accessing the global value chain in a changing institutional environment: comparing aeronautics and coffee,' Inter-American Development Bank. Integration and Trade Sector. VIII, Title IX, Series IDB-WP-370.

Campbell, J., 2004. *Institutional Change and Globalization*. USA: Princeton University Press.

Carey, S., and Lawson, B., 2011. 'Governance and social capital formation in buyer-supplier relationships.' Journal of Manufacturing Technology Management. Vol. 22, No. 2, pp. 152-170.

Cattaneo, O., Gereffi G., Miroudot, S., and Taglioni, D., 2013. 'Joining, Upgrading and Being Competitive in Global Value Chains: A Strategic Framework.' World Bank Policy Research Working Paper 6406.

CBI, 2014a. 'Trade channels and market segments for fresh pineapples.' Netherlands Ministry of Foreign Affairs. Tailored Study- Fresh Pineapples from West Africa. https://www.cbi.eu/sites/default/files/study/tailored-study-pineapples-west-africa-europe-trade-channels-market-segments-fresh-fruit-vegetables-2014.pdf

CBI, 2014b. 'Product Characteristics for fresh pineapples.' Netherlands Ministry of Foreign Affairs. Tailored Study- Fresh Pineapples from West Africa. Available at: https://www.cbi.eu/sites/default/files/study/tailored-study-pineapples-west-africa-europe-product-characteristics-fresh-fruit-vegetables-2014.pdf

CBI, 2014c. 'Client services for fresh pineapples.' Netherlands Ministry of Foreign Affairs. Tailored Study- Fresh Pineapples from West Africa. Available at: https://www.cbi.eu/sites/default/files/study/tailored-study-pineapples-west-africa-europe-client-services-fresh-fruit-vegetables-2014.pdf

CBI, 2014d. 'Promising EU export markets for fresh pineapples.' Netherlands Ministry of Foreign Affairs. Tailored Study- Fresh Pineapples from West Africa.

CBI, 2015. 'CBI Product Factsheet: Fresh Pineapples in Europe.' Netherlands Ministry of Foreign Affairs. Tailored Study- Fresh Pineapples from West Africa. Available at: https://www.cbi.eu/sites/default/files/product-factsheet-europe-fresh-pineapples-2015.pdf

CBI, 2012. 'CBI Buyers Black Box: Fresh Fruit and Vegetables.' Available at: http://www.cbi.eu/sites/default/files/study/understanding-european-buyers-europe-

fresh-fruit-vegetables-2012.pdf

CBI, 2009. 'CBI Market Survey: The EU market for pineapple.' Netherlands Ministry of Foreign Affairs. Published April 2009. Available at: http://www.cadexco.bo/actual/boletin-inteligencia/Pineapple%20Survey.pdf

Chamberlain, J., 2008. 'It's a Small World After All: Defining Smallholder Agriculture in Ghana.' International Food Policy Research Institute (IFPRI) Discussion Paper 00823.

Chaudhry, T.T., 2005. 'Industrial Clusters in Developing Countries: A Survey of the Literature.' The Lahore Journal of Economics. Vol. 10, No. 2, pp. 15-34.

Clark, M., 1997. 'Transnational Alliances and Development Policy in Latin America: Nontraditional Export Promotion in Costa Rica.' Latin American Research Review, Vol. 32, No. 2, pp. 71-97.

Clark, M.A., 1995. 'Nontraditional Export Promotion in Costa Rica: Sustaining Export-led Growth.' Journal of Interamerican Studies and World Affairs. Vol. 37, No. 2, pp. 181-223.

Coase, R., 1937. 'The Nature of the Firm.' Economica, New Series. Vol. 4, No. 16, pp. 386-405.

Coe, N.M. and Jordhus-Lier, D.C., 2010. 'Constrained agency? Re-evaluating the geographies of labour.' Progress in Human Geography. Issue 35, Vol. 2, pp.211-233.

Coe, N.M., Dicken, P. and Hess, M., 2008. 'Introduction: Global Production Networks – debates and challenges.' Journal of Economic Geography. Vol. 8, Issue 3, pp.267-269.

Coe, N.M., Kelly, P.F., and Yeung, H.W-C., 2007. *Economic Geography: A Contemporary Introduction*. Oxford, UK: Blackwell Publishing Ltd.

Cohen, W.M., and Levinthal, D.A., 1990. 'Absorptive Capacity: A New Perspective on Learning and Innovation.' Administrative Science Quarterly. Vol. 35, No. 1, pp. 128-152.

COLEACP, 2005. 'Ghana: Producing MD2 pineapple using good agricultural practices.' Published on 29 June 2005. Available at: https://www.coleacp.org/pip/9824-ghana-producing-md2-pineapple-using-good-agricultural-practices.

COLEACP/PIP, 2011. 'Crop Production Protocol: Pineapple MD2 (Ananas comosus).' Available at: http://pip.coleacp.org/files/documents/IT-AnanasMD2%2012-2011-02-1-UK.pdf

Coles, C., and Mitchell, J., 2011. 'Working Together – Horizontal Coordination as an Upgrading Strategy.' In: J. Mitchell and C. Coles (eds.), *Markets and Rural Poverty: Upgrading in Value Chains*. London and Washington DC: Earthscan. Chapter 4, pp. 143-162.

Commons, J.R., 1934. *Institutional Economics: Its Place in Political Economy*. New York: Macmillan.

Conley, T.G., and Udry, C.R., 2008. 'Learning about a New Technology: Pineapple in Ghana.' Yale University.

Consumers International, 2010. 'The story behind the pineapples sold on our shelves: A

case study of Costa Rica.' Summary of research carried out by Banana Link on behalf of Consumers International.

Cordero, J., and Paus, E., 2008. 'Foreign Investment and Economic Development in Costa Rica: The Unrealized Potential.' The Working Group on Development and Environment in the Americas. Discussion Paper Number 13.

Cornelisse, P.A., and Thorbecke, E., 2010. *Exchange and Development.* Cheltenham: Edward Elgar.

Coulter, J., Millns, J., and Tallontire, A., 1999. 'Increasing smallholders' involvement in high-value horticulture: Lessons from Zimbabwe.' Project for Department for International Development. National Resources Institute (NRI).

Cramer, C.,1999. 'Can Africa industrialize by processing primary commodities? The case of Mozambican cashew nuts.' World Development, Vol. 27, Issue 7, pp.1247- 1266.

Crang, M., Hughes, A., Gregson, N., Norris, L., and Ahamed, F., 2013. 'Rethinking governance and value in commodity chains through global recycling networks.' Transactions of the Institute of British Geographers. Vol. 38, Issue 1, pp. 12-24.

Croom, S., Romano, P., and Giannakis, M., 2000. 'Supply chain management: an analytical framework for critical literature review.' European Journal of Purchasing and Supply Management. Vol.6, Issue 1, pp. 67-83.

Daddieh, C.K., 1998. 'Pineapple Production, Labor, and Marketing Relationships in the Periurban Economy of Accra, Ghana.' In: V.U. James (ed.), *Capacity building in Developing Countries: Human and Environmental Dimensions.* USA: Praeger Publishers. Chapter 8, pp. 99-128.

Daddieh, C.K., 1994. 'Contract farming and Palm oil production in Cote d'Ivoire and Ghana.' In: P. Little and M.J. Watts (eds.), *Living under contract: Contract farming and Agrarian Transformation in Sub-Saharan Africa.* USA: The University of Wisconsin Press. Chapter 6, pp. 188-215.

Dadzie, R. B., 2011. Developmental state and agriculture for development: Lessons for Ghana from East Asia.' Published thesis. University of Missouri, USA. ProQuest Dissertations Publishing.

Dahlman, C., Ross-Larson, B., and Westphal, L., 1987. 'Managing Technological Development: lessons from the newly industrializing countries. World Development. Vol. 15, No.6, pp. 759-775.

Danielou, M. and Ravry, C., 2005. 'The Rise of Ghana's Pineapple Industry: From Successful Takeoff to Sustainable Expansion.' World Bank Africa Region Working Paper, 93.

Davies, J.S., 2011. *Challenging Governance Theory: From Networks to Hegemony.* Bristol: Policy Press.

Daviron, B., and Gibbon, P., 2002. 'Global Commodity Chains and African Export

Agriculture.' Journal of Agrarian Change. Vol. 2, No. 2, pp. 137-161.

Dawson, C., 2016. 'Pineapple: An INFOCOMM Commodity Profile.' UNCTAD Trust Fund on Market Information on Agricultural Commodities. Rome and Geneva: UNCTAD. Available at: http://unctad.org/en/PublicationsLibrary/INFOCOMM_cp09_Pineapple_en.pdf.

de Pereny, M.L., 2012. 'Leveraging the Institutional Dimension into the Alpaca fibre global value chain.' Paper presented at the Globelics Academy 2012 -VIII PhD School on Innovation and Economic Development, Instituto de Economica - Universidde Federal do Rio de Janeiro (UFRJ), Brazil, August 20 - 31 2012.

Deb, R., and Suri, T., 2013. 'Endogenous emergence of credit markets: Contracting in response to a new technology in Ghana.' Journal of Development Economics, Vol. 101, pp.268-283.

Den Daas, J. L., 1993. 'Producing Pineapple in the Atlantic Zone of Costa Rica: Agronomic and Marketing Aspects.' CAITE, MAG and Agricultural University of Wageningen. Report No. 51, Field Report No. 79.

Department of Tropical Plant and Soil Sciences, 2002. 'Information system of tropical fruits in Hawaii: Pineapple.' University of Hawaii. Viewed 13 August 2015. Available at: http://www.ctahr.hawaii.edu/fb/pineappl/pineappl.htm

Dicken, P., 2008. 'Epilogue: A relational perspective.' In P. Pellenbarg and E. Wever (eds.), *International business geography: Case studies of corporate firms*. New York, NY: Routledge.

Dicken P., Kelly, P.F., Olds, K., and Yeung, H.W-C., 2001. 'Chains and networks, territories and scales: towards a relational framework for analysing the global economy.' Global Networks 1, 2, pp.89-112

Diop, N., and Jaffee, S.M., 2005. 'Fruits and Vegetables: Global Trade and Competition in Fresh and Processed Product markets.' In: M.A. Aksoy and J.C. Beghin (eds.), Global A*gricultural Trade and Developing Countries*. Washington D.C.: World Bank. Chapter 13, pp. 237-258.

Dixie, G., and Sergeant, A., 1998. 'The Future for Ghanaian Horticultural exports industry.' Prepared for the Agricultural Diversification Project. Accord Associates.

Dixon, J., Tanyeri-Abur, A., and Wattenbach, H., 2004, 'Framework for analysing impacts of globalization on smallholders.' In: J. Dixon, K. Taniguchi, H. Wattenbach, and A. Tanyeri-Abur, eds. 2004. Smallholders, globalization and policy analysis. Rome: FAO. Available at: http://www.fao.org/docrep/007/y5784e/y5784e00.htm

Dolan, C., and Humphrey, J., 2000. 'Governance and trade in fresh vegetables: the impact of UK supermarkets on the African horticulture industry', Journal of Development Studies, Vol. 37, No. 2, pp. 147-176.

Dolan, C., Humphrey, J., and Harris-Pascal, C., 1999. 'Horticulture Commodity Chains: The Impact on the UK Market of the African Fresh Vegetable Industry.' IDS Working Paper 96. IDS, Brighton.

Dorward, A., 2009. 'Rethinking Agricultural Input Subsidy Programmes in a Changing World.' Paper prepared for the Trade and Markets Division, Food and Agriculture Organization of the United Nations. Available at: https://www.oecd.org/tad/agricultural-policies/46384527.pdf.

Dorward, A.R., Kirsten, J.F., Omamo, S. W., Poulton, C., and Vink, N., 2009. 'Institutions and the Agricultural Development Challenge in Africa.' In: J. F. Kirsten, A.R. Dorward, C. Poulton and N. Vink (eds). *Institutional Economics Perspectives on African Agricultural Development*. Washington D.C: IFPRI. Chapter 1, pp. 3- 35.

Dorward, A.R., and Omamo, S.W., 2009. 'Framework for Analyzing Institutions.' In: J.F. Kirsten, A.R. Dorward, C. Poulton and N. Vink (eds). *Institutional Economics Perspectives on African Agricultural Development*. Washington D.C: IFPRI. Chapter 3, pp. 75-110.

Dussel-Peters, E., 2008. 'GCCs and development: A Conceptual and Empirical Review.' Competition and Change. Vol.12, Issue 1, pp.11-27.

Economic Commission for Latin America and the Caribbean (ECLAC). 2002. 'Globalization: A Historical and Multidimensional perspective.' In: *Globalization and Development*. United Nations, Ch. 1.

European Commission (EC), 2005. Regulation (EC) No 396/2005 of the European Parliament and of the Council of 23 February 2005 on maximum residue levels of pesticides and amending Council Directive 91/414/EEC. Official Journal of the European Union, L70/2.

European Commission (EC), 2007. Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91. Official Journal of the European Communities, L189/1 (20.7.2007), 1-23.

Eurostat Comext database, 2016. International Trade: EU Trade since 1988 by SITC. Available at: http://epp.eurostat.ec.europa.eu/newxtweb/

Ellis, K., Lemma, A., and Rud, J-P., 2010. 'Investigating the impact of access to financial services on household investment.' Overseas Development Institute (ODI)

Elola, A., Valdaliso, J.M., and López, S., 2013. 'The Competitive Position of the Basque Aeroespatial Cluster in Global Value Chains: A Historical Analysis.' European Planning Studies. Vol. 21, No. 7, pp.1029-1045.

Eosta/ICCO, 2010. 'Sustainability of Organic and Organic Fairtrade pineapple growing for export: Mission report.' Eosta and ICCO.

ERS/USDA, 2015. 'Fresh pineapple: Supply and disappearance.' Food Availability Documentation. Data last updated 1 February 2015.

European Commission (EC), 2009. 'Analysis of Price Transmission along the value chain.' Commission Staff Working Document. Available at: http://ec.europa.eu/economy_finance/publications/publication16067_en.pdf

Fafchamps, M., 1996. 'The Enforcement of Commercial Contracts in Ghana.' World Development. Vol. 24, No.3, pp. 427- 488.

Fairtrade Labelling Organization (FLO), 2009a. 'Minimum Price and Premium Information.' Available at: http://www.fairtrade.net/standards/price-and-premium-info.html.

Fairtrade Labelling Organization (FLO), 2009b. 'Factsheet: Fairtrade Standard for Pineapple.' Fairtrade. Updated 11 December 2009. Available at: http://www.fairtrade.net/fileadmin/user_upload/content/Factsheet_pineapples_EN_final.pdf.

FAO, 2004. 'FAO Statistical Yearbook, 2004.' Rome: FAO.

FAO, 2005a. 'Fertiliser use by crop in Ghana', Land and Plant Nutrition Management Service, Land and Water Development Division. Rome: FAO. Available at: ftp://ftp.fao.org/docrep/fao/008/a0013e/a0013e00.pdf.

FAO, 2005b. 'Pineapple: Post-Harvest Operations.' Available at: http://www.fao.org/fileadmin/user_upload/inpho/docs/Post_Harvest_Compendium_-_Pineapple.pdf

FAO, 2012. 'Guiding principles for contract farming operations.' http://www.fao.org/docrep/016/i2858e/i2858e.pdf

FAO, 2013. 'FAO Statistical Yearbook 2013: World Food and Agriculture.' Rome: FAO.

FAO, 2014. 'FAO Statistical Yearbook 2014: Europe and Central Asia Food and Agriculture.' Budapest: FAO.

FAO Statistical Databases, 2016. FAOSTAT: Food and Agriculture Data. Available online: http://faostat.fao.org

Fasciani, D.A., 2014. 'Pineapple, Palm, and Peons: Non-Traditional Agricultural Exports and Labour in Self-Managed Agricultural Production Cooperatives in Costa Rica.' PhD thesis. Simon Fraser University.

Fearon, J., Adraki, P.K., and Boateng, V.F., 2015. 'Fertilizer Subsidy Programme in Ghana: Evidence of Performance after Six Years of Implementation.' Journal of Biology, Agriculture and Healthcare. Vol. 5, No. 21, pp.100-107.

Felipe, J., 2003. 'Is Export-led Growth Passé? Implications for Developing Asia.' Asian Development Bank. Economics and Research Department Working Paper Series No.48.

Fernandez-Stark, K., Bamber, P. and Gereffi, G., 2011. 'The Fruit and Vegetables Global Value Chain: Economic Upgrading and Workforce Development.' Center on Globalization, Governance and Competitiveness, Duke University.

Ferreira, G.F.C., and Harrison. R.W, 2012. 'From Coffee Beans to Microchips: Export Diversification and Economic Growth in Costa Rica.' Journal of Agricultural and Applied Economics. Vol. 44, Issue 4, pp.517-553.

Flick, U., 2002. *An Introduction to Qualitative Research*. 2nd edition. London: Sage Publications Ltd.

Fold, N., 2002. 'Lead Firms and Competition in 'Bi-Polar' Commodity Chains: Grinders

and Branders in the Global Cocoa-Chocolate Industry.' Journal of Agrarian Change, Vol.2, No.2, pp.228-247.

Fold, N., and Gough, K.V., 2008. 'From smallholders to transnationals: The impact of changing consumer preferences in the EU on Ghana's pineapple sector.' Geoforum, 39, Issue 5, pp.1687-1697.

Frederick, S.E., 2010. 'Development and Application of a Value Chain Research Approach to Understand and Evaluate Internal and External Factors and Relationships Affecting Economic Competitiveness in the Textile Value Chain.' PhD thesis. North Carolina State University.

FreshPlaza, 2006. 'Ghana: pineapple farmers appeal to govt.' Available at: http://www.freshplaza.com/2006/07aug/2_gh_pineapple.htm

Freshplaza, 2014. 'Worldwide production of fruits and vegetables increased by 9.4%.' Published 2 November, 2014. Available at: http://www.freshplaza.com/article/117700/Worldwide-production-of-fruits-and-vegetables-increased-by-9.4-procent.

Fukuyama, F., 1999. 'Social Capital and Civil Society.' IMF conference on Second Generation Reforms. Washington D.C., November 8-9.

Gallup, J.L., Sachs, J. and Mellinger, A. D., 1998. 'Geography and Economic Development.' NBER working paper No. 6849. Available at: http://www.nber.org/papers/w6849.pdf?new_window=1

Gálvez-Nogales, E., 2010. 'Agro-based clusters in developing countries: staying competitive in a globalized economy.' FAO Agricultural Management, Marketing and Finance Occasional Paper No.25. Available at: http://www.fao.org/docrep/012/i1560e/i1560e.pdf

Gatune, J., Chapman-Kodam, M., Korboe, K., Mulangu, F., and Rakotoarisoa, M. A., 2013. 'Analysis of Trade Impacts on the Fresh Pineapple Sector in Ghana.' FAO Commodity and Trade Policy Research Paper No. 41.

Gellert, P.K., 2003. 'Renegotiating a Timber Commodity Chain: Lessons from Indonesia on the Political Construction of Global Commodity Chains.' Sociological Forum. Vol. 18, No.1, pp.53-84.

Geman, H., 2005. Commodities and Commodity Derivatives: Modelling and Pricing for Agriculturals, Metals, and Energy. Wiley Finance Series. John Wiley & Sons.

Gereffi, G., 2005. 'The Global Economy: Organization, Governance, and Development.' In: N. J. Smelser and R. Swedberg (eds.), *The Handbook of Economic Sociology*. Princeton, N.J.: Princeton University Press and New York: Russell Sage Foundation. Chapter 8, pp. 160-182.

Gereffi, G., 1999a. 'A Commodity Chains Framework for Analyzing Global Industries.' Available at: http://eco.ieu.edu.tr/wp-content/Gereffi_CommodityChains99.pdf

Gereffi, G., 1999b. 'International trade and industrial upgrading in the apparel commodity chain.' Journal of International Economics. Vol. 48, pp. 37-70.

Gereffi, G., 1995. Global production systems and Third World development. In B. Stallings, ed. *Global Change, Regional Response: The New International Context of Development.* Cambridge: Cambridge University Press.

Gereffi, G., 1994. 'The Organization of Buyer-driven Global Commodity Chains: How U.S. Retailers Shape Overseas Production Networks.' In: G. Gereffi and M. Korzeniewicz (eds.), *Commodity Chains and Global Capitalism.* Westport, Connecticut: Praeger.

Gereffi, G., and Fernandez-Stark, K., 2011. Global Value Chain Analysis: A Primer.' Duke University, Center on Globalization, Governance and Competitiveness.

Gereffi, G., Humphrey, J., and Sturgeon, T., 2005 'The Governance of Global Value Chains', Review of International Political Economy, Vol.12, No. 1, pp. 78-104.

Gereffi, G., and Memedovic, O., 2003. 'The Global Apparel Value Chain: What Prospects for Upgrading for Developing Countries.' Vienna, Austria: United Nations Industrial Development Organization (UNIDO).

Gereffi, G., Humphrey, J., Kaplinksy, R., and Sturgeon, T., 2001. 'Introduction: Globalisation, Value Chains and Development.' Institute of Development Studies (IDS) Bulletin, 32.3. Available at: http://www.ids.ac.uk/files/dmfile/gereffietal323.pdf

Gereffi, G. and Kaplinsky, R. (eds), 2001. 'The Value of Value Chains.' IDS Bulletin. Vol. 32, No.3, special issue.

Gereffi, G., and Korzeniewicz, M., (eds.), 1994. *Commodity Chains and Global Capitalism*. Westport: Praeger

Germer, J., 2005. Climate at Valley View University. 'Re-use of Ecological Sanitation Products in Tropical Agriculture (RESPTA), University of Hohenheim, Institute of Plant Production and Agroecology in the Tropics and Subtropics. Retrieved from https://www.uni-hohenheim.de/respta/climate.php

Ghana Export Promotion Authority (GEPA), 2014. 'Ghana's Non-Traditional Export Sector.' GEPA, Accra.

Ghana Export Promotion Agency (GEPA), 2010. 'The Export of Horticulture from Ghana.' Available at: http://www.gepcghana.com/horticulture.php

Ghana News Agency (GNA), 2013. 'Ghana announces fertiliser and seed subsidy for 2013.' Published Tuesday 16 April 2013. Available at: http://www.ghananewsagency.org/economics/government-announces-fertilizer-and-seed-subsidy-for-2013-58997

Ghana News Agency (GNA), 2004. 'Ghana to Produce MD2 Pineapple Suckers.' Published on 10 September, 2004. Available at: http://www.modernghana.com/news/62783/1/ghana-toproduce-md2-pineapple-suckers.html

Ghana Statistical Service (GSS), 2014a. 'National Accounts Statistics: Final Gross Domestic

Product for 2012 and Revised GDP for 2013.' Accra: GSS.

Ghana Statistical Service (GSS), 2014b. 'District Analytical Report: Akwapim South District.' 2010 Population and Housing Census. Accra: GSS

Ghana Statistical Service (GSS), 2014c. 'District Analytical Report: Ekumfi District.' 2010 Population and Housing Census. Accra: GSS.

Ghana Statistical Service (GSS), 2014d. 'Digest of International Merchandise Trade Statistics: 2009 – 2013.' Accra: GSS.

Ghana Statistical Service (GSS), 2002. *Population and Housing census: Special Report on 20 largest localities.* Accra: GSS.

Ghanaian Chronicle, 2004. 'Pineapple exporters face stiff competition.' Published on 4 March 2004. Accessed from https://www.modernghana.com/news/50702/pineapple-exporters-face-stiff-competition.html

Giavazzi, F., and Tabellini, G., 2005. 'Economic and Political Liberalizations.' Journal of Monetary Economics. Vol. 52, Issue 7, pp.1297-1330.

Gibbon, P., 2008. 'Governance, Entry Barriers, Upgrading: A re-interpretation of some GVC concepts from the experience of African Clothing Exports.' Competition and Change. Vol. 12, No. 1, pp. 29-48.

Gibbon, P., 2005. 'The commodity question: new thinking on old problems.' Human Development Report, Occasional Paper. Available at: http://hdr.undp.org/sites/default/files/hdr2005_gibbon_peter_13.pdf

Gibbon, P., 2003. 'Commodities, Donors, Value-Chain Analysis and Upgrading.' Danish Institute for International Studies. Paper prepared for UNCTAD.

Gibbon, P., 2001a. 'Upgrading a primary commodity: A Global Commodity Chain Approach.' World Development. Volume 29, Issue 2, pp. 345 – 363.

Gibbon, P., 2001b. 'Agro-Commodity Chains: An Introduction.' Institute of Development Studies (IDS) Bulletin. Vol 32, No 3, pp. 60-68.

Gibbon, P., Bair, J., and Ponte, S., 2008. 'Governing global value chains: An introduction.' Economy and Society, Vol. 37, Issue 3, pp. 315–338.

Gibbon, P. and Ponte, S., 2005. *Trading down: Africa, Value Chains and the Global Economy*. Philadelphia: Temple University Press.

Giles, J.A., and Williams, C.L., 2000. 'Export-led Growth: A Survey of the Empirical Literature and Some Noncausality Results Part 1.' Econometrics Working Paper EWP0001.

Giuliani, E., Pietrobelli, C. and Rabellotti, R., 2005. 'Upgrading in global value chains: lessons from Latin America clusters. World Development. Vol. 33, No.4, pp.549-73.

GLOBALG.A.P., 2016. 'Integrated Farm Assurance: All Farm Base Control Points and Compliance Criteria.' GLOBALG.A.P.

Glover, D. and Kusterer, K., 1990. *Small Farms, Big Business: Contract Farming and Rural Development*. London: MacMillian.

Glover, D., 1984. 'Contract Farming and Smallholder Outgrower Schemes in Less-developed Countries.' World Development. Vol. 12, Nos. 11/12, pp. 1143-1157.

Goes, P., and van Dijk, M.P., 2012. 'A Comparative Study of Malaysian and Chinese Semiconductor Value Chains.' In: M.P. van Dijk and J. Trienekens, eds. *Global Value Chains: Linking Local Producers from Developing countries to International Markets.* Amsterdam: Amsterdam University Press. Chapter 8, pp.165-199.

Goger, A., Hull, A., Barrientos, S., Gereffi, G., and Godfrey, S., 2014. 'Capturing the Gains in Africa: Making the Most of Global Value Chain Participation.' Duke University, Center on Globalization, Governance and Competitiveness.

Gogoe, S., Dekpor, A., and Williamson, S., 2001. 'Prickly issues for pineapple pesticides.' Pesticide News No. 54, December 2001, pp. 4-5. Available at: http://www.pan-uk.org/pestnews/Issue/pn54/pn54p4.htm

Gogoe, S., 2004. 'Helping smallholders to supply European markets.' Pesticides News No. 64, June 2004, pp. 12 – 13.

Goldstein, M., and Udry, C., 1999. 'Agricultural Innovation and Resource Management in Ghana.' Final Report to IFPRI under MP17. Available at: www.econ.yale.edu/~udry/pdf/finalrep.pdf.

Gonzaleź , G.A., 2004. 'Diagnostic Situation and Conditions of the Pineapple Industry in Costa Rica.' Aseprola Asociación Servicios De Promocion Laboral (ASEPROLA).

Gorman, M. and Webber, 'Creating and Taking Advantage of Economies of Scale—The Ghana and Côte d'Ivoire Experiences in Fresh Pineapple Exports.' In: C.M. Webber and P. Lambaste (eds). *Building Competitiveness in Africa's Agriculture: A guide to value chain concepts and applications.* Washington D.C: World Bank. Case study 8, pp.97-99.

Government of Ghana (GoG), February 2004. Agricultural Services Sub-Sector Investment Program (AgSSIP), Horticulture Exports Industry Initiative Detailed Work plan 2004 – 2006. Available at: http://www.hubrural.org/IMG/pdf/ghana_agricultural_services_sub_sector_investment.pdf

Government of Ghana (GoG)/World Bank, 2007. 'Revised Food Safety Action Plan.' Ministry of Food and Agriculture Food Safety Task Force and World Bank Africa Agriculture and Rural Development (AFTAR). Available at: http://siteresources.worldbank.org/INTRANETTRADE/Resources/Ghana_Food_Safety_Action_Plan_Revised.pdf

Gow, H. R., and Swinnen, J. F. M., 2001. 'Private enforcement capital and contract enforcement in transitional economies.' American Journal of Agricultural Economics. Vol. 83, No.3, pp. 686–690.

Gow, H., Streeter, D., and Swinnen, J. F. 2000. 'How private contract enforcement mechanisms can succeed where public institutions fail: The Case of Juhocukor a.s.' Agricultural Economics. Vol. 23, Issue 3, pp. 253–265.

Graffham, A., Karehu, E., and Macgregor, J., 2007. 'Impact of EurepGAP on Smallscale Vegetable Growers in Kenya, Fresh Insights 6, Greenwich: Natural Resources Institute. Available at: https://assets.publishing.service.gov.uk/media/57a08be6ed915d3cfd001018/60506fresh_insights_6_EurepGapKenya.pdf

Granleese, M., 2009. 'Market organisation and the process of economic development: The case of the partially liberalised cocoa market in Ghana.' PhD thesis, Bournemouth University.

Granovetter, M., 1985. 'Economic Action and Social Structure: The Problem of Embeddedness.' American Journal of Sociology, Vol. 91, No 3, pp. 481-510.

Granovetter, M., 1992. 'Economic Institutions as Social Constructions: A Framework for Analysis.' Acta Sociologica, Vol 35, pp. 3-11.

Grief, A., 2006. *Institutions and the path to the modern economy: lessons from medieval trade.* Cambridge University Press: New York.

Greif, A., 1994. 'Cultural Beliefs and the Organisation of Society: A Historical and Theoretical Reflection on Collectivist and Individualist Societies.' Journal of Political Economy. Vol. 102, No. 5, pp. 912-950.

Grief, A., and Laitin, D.D., 2004. 'A Theory of Endogenous Institutional Change. American Political Science Review.' Vol. 98, No.4, pp. 633-652.

Grosh, B., 1994. 'Contract farming in Africa: An application of the new institutional economics.' Journal of African Economies. Vol. 3, Issue 2, pp. 231–260.

Grossman, S.J., and Hart, O.D., 'The Costs and Benefits of Ownership: A theory of Vertical and Lateral Integration.' Journal of Political Economy. Vol. 94, No. 4, pp. 691-719.

Gurría, A., 2012. 'The Emergence of Global Value Chains: What Do They Mean for Business?' Remarks at the G20 Trade and Investment Promotion Summit, Mexico City, Monday, 5 November 2012. Available at: http://www.oecd.org/about/secretarygeneral/theemergenceofglobalvaluechainswhatdotheymeanforbusiness.htm

Hall, P.A., and Taylor, R.C.R., 1996. 'Political Science and the Three New Institutionalisms,' Political Studies. Vol. 44, Issue 5, pp. 936-957.

Hallam, D., Liu, P., Levers, G., Pilkauskas, P., Rapsomanikis, G., and Claro, J., 2004. 'The Market for Non-Traditional Agricultural Exports.' Raw Materials, Tropical and Horticultural Products Service, Commodities and Trade Division. Rome: FAO.

Hansen-Kuhn, K., 1993. 'Structural Adjustment in Central America: The Case of Costa Rica.' Washington D.C.: The Development Gap.

Hayami, Y., and Ruttan, V.W., 1985. *Agricultural development: An International Perspective.* Baltimore, MD: John Hopkins Press.

Hazell, P., Poulton, C., Wiggins, S., and Dorward, A., 2007. 'The Future of Small Farms for Poverty Reduction and Growth.' IFPRI, 2020 Discussion Paper 42.

Held, D., A. McGrew, D. Goldblatt, and J. Perraton. 1999. *Global Transformations: Politics, Economics and Culture*. Stanford: Stanford University Press

Henderson, J., Dicken, P., Hess, M., Coe, N. M., Yeung, H. W.-C., 2002. 'Global production networks and the analysis of economic development.' Review of International Political Economy. Vol.9, Issue 3, pp.436–464.

Henson, S., 2008. 'New Markets and Their Supporting Institutions: Opportunities and Constraints for Demand Growth.' World Bank. Available at: http://siteresources.worldbank.org/INTWDR2008/Resources/2795087-1191427986785/HensonS_NewMrkts&TheirSupportngInstns%5B1%5D.pdf

Henson, S., and Humphrey, J. 2009. "The impacts of private food safety standards on the food chain and on Public Standard-Setting Processes." Paper prepared for the FAO/WHO.

Henson, S., and Jaffee, S. M., 2008. 'Understanding developing country strategic responses to the enhancement of food safety standards.' World Economy. Vol. 31, Issue 4, pp. 548–568.

Henson, S., and Jaffee, S. M., 2006. 'Food safety standards and trade: Enhancing competitiveness and avoiding exclusion of developing countries.' The Europe Journal Development Research 18, Issue 4, pp. 593–621.

Herath, D., and Weersink, A., 2008. 'From plantations to smallholder production: The role of policy in the reorganization of the Sri Lankan tea sector.' World Development. Vol. 37, No. 11, pp.1759-1772.

Herr, M., Hultquist, I., Rogovsky, N., and Pyke, F., 2006. 'Module 2: value chain analysis. A guide for value chain analysis and upgrading (pp. M2-1). Geneva, Switzerland: ILO. Available at: http://www.bdsknowledge.org/dyn/bds/docs/545/ILO_Chapter%202.pdf

Hess, M., 2008. 'Governance, value chains and networks: an afterword.' Economy and Society. Vol. 37, No. 3, pp.452-459.

Hess, M., 2004. 'Spatial' relationships? Towards a re-conceptualisation of embeddedness.' Progress in Human Geography. Vol. 28, No. 2, pp.165–186.

Hess, M., and Yeung, H. W-C., 2006. 'Whither global production networks in economic geography? Past, Present, and Future.' Environment and Planning A. Vol. 38, No. 7, pp. 1193-1204.

Hicks, V., and Adams, O., 2000. 'The effects of economic and policy incentives on provider practice.' World Health Organization. Issues in health services delivery, discussion paper No. 5. WHO/EIP/OSD/2000.8.

Hidalgo, C. A., Klinger, B., Barabasi, A.-L. and Hausmann, R., 2007. 'The Product Space Conditions the Development of Nations.' Science, Vol. 317, pp. 482–87.

Hirschman, A.O., 1958. The Strategy of Economic Development. New Haven and London: Yale University Press.

Hirst, P., Thompson, G. and Bromley, S., 2009. *Globalization in question*. 3rd edition. Cambridge and Massachusetts: Polity Press.

Hodgson, G.M, 2004. 'Reclaiming Habit for Institutional Economics.' Journal of Economic Psychology. Vol. 25, Issue 5, pp.651-660.

Hodgson, G.M., 2000. 'What is the Essence of Institutional Economics?' Journal of Economic Issues. Vol. 34, No.2, pp. 317-329.

Holmstrom, B. and Milgrom, P., 1994. 'The Firm as an Incentive System.' American Economic Association. Vol. 84, No. 4, pp. 972-991.

Honey, M., 1994. Hostile acts: U.S. policy in Costa Rica in the 1980s. Gainesville, FL: University Press of Florida.

Hopkins, T.K., and Wallerstein, I., 1994. 'Commodity Chains in the Capitalist World-Economy Prior to 1800.' In: G. Gereffi and M. Korzeniewicz (eds.) 1994. *Commodity Chains and Global Capitalism*. Westport, Connecticut: Praeger.

Hopkins, T.K., and Wallerstein, I., 1986. 'Commodity Chains in the World-Economy Prior to 1800.' Review 10, Issue 1, pp.157-170.

Hughes, A., Wrigley, N., and Buttle, M., 2008. 'Global production networks, ethical campaigning, and the embeddedness of responsible governance.' Journal of Economic Geography. Vol. 8, Issue 3, pp. 345-367.

Humphrey, J., 2009. 'Private Standards in Kenyan Horticulture: Did the Donors Respond Effectively to the Challenge?' Paper prepared for conference 'Towards Priority Actions for Market Development for African Farmers', sponsored by the International Livestock Research Institute Nairobi, May 13-15, 2009.

Humphrey, J., 2008. 'Private Standards, Small Farmers and Donor Policy: EUREPGAP in Kenya.' Institute of Development Studies (IDS). Working paper 308. IDS, Brighton.

Humphrey, J., 2006. 'Policy implications of trends in agribusiness value chains.' European Journal of Development Research. Vol. 18, Issue 4, pp.572-592.

Humphrey, J., 2004. 'Upgrading in Global Value Chains.' International Labour Organization (ILO), Policy Integration Department. Working paper no. 28.

Humphrey, J., and Navas-Alemán, L., 2010. Value Chains, Donor Interventions and Poverty Reduction: A Review of Donor Practice. IDS Research Reports, Issue 63, pages 1–106. Available at: https://www.ids.ac.uk/files/dmfile/rr63.pdf.

Humphrey, J., and Memedovic, O., 2006. Global value chains in the agrifood sector.' Vienna: United Nations Industrial Development Organization (UNIDO).

Humphrey, J., and Oetero, A., 2000. 'Strategies for diversification and adding value to food exports: A value chain perspective.' UNCTAD Conference on Trade and Development, 14 November 2000.

Humphrey, J., and Schmitz, H., 2002. 'How Does Insertion in Global Value Chains Affect Upgrading in Industrial Clusters?' Regional Studies, Vol. 36, Issue 9, pp.1017-1027.

Humphrey, J., and Schmitz, H., 2001. 'Governance in global value chains', IDS Bulletin. Vol. 32, No.3, pp. 19–29.

Humphrey, J., and Schmitz, H., 2000. 'Governance and Upgrading: Linking Industrial Cluster and Global Value Chain Research, Institute of Development Studies (IDS) Working Paper, No. 120. IDS, Brighton.

Humphrey, J., and Schmitz, H., 1998. 'Trust and interfirm relations in developing and transition economies.' The Journal of Development Studies, Vol. 34, Issue 4, pp.32–61.

Hutchful, E., 2002. Ghana's Adjustment Experience: The Paradox of Reform. UK: United Nations Research Institute for Social Development (UNRISD) and James Currey Ltd.

IFOAM, 2016. 'What is Organic Agriculture?' Frequently asked questions on organics. Available at: https://www.ifoam.bio/en/our-library/organic-basics#What is OA.

Imoru, J.A., and Ayamga, M., 2015. 'Fertiliser subsidy effects on fertiliser use in the northern region of Ghana.' African Journal of Agricultural Research. Vol. 10, No.53, pp.4926-4936.

IMPAQ International LLC, 2011. 'Millennium Development Authority (MiDA)-Ghana Mid-Term Review.' Prepared for the Chief Executive Officer MiDA Ghana.

INCAE. Export Management Program, 1989. 'Costa Rica´s Non-Traditional Agricultural Exports: Análisis and Recommendations.' Submitted to Consejo Agropecuario Agroindustrial Privado. Alajuela. Available at: http://pdf.usaid.gov/pdf_docs/PNABG229.pdf.

International Labor Rights Forum (ILRF), 2008. 'The Sour Taste of Pineapple: How an Expanding Export Industry Undermines Workers and Their Communities.' Available at: http://makefruitfair.org/wp-content/uploads/2016/01/ilrf_pineapplereport.pdf

International Labour Organization (ILO), 2011. 'Policies and Regulations to combat precarious employment.' Switzerland: United Nations

International Trade Centre UNCTAD/WTO, 2001. 'Cocoa: A Guide to Trade Practices.' Geneva: ITC.

ISH, 2009. 'Pineapple News', Newsletter of the Pineapple Working Group of the International Society for Horticulture Science. Issue No. 16, July. Available at: http://www.ishs-horticulture.org/workinggroups/pineapple/PineNews16.pdf.

ISH, 2007. 'Pineapple News.' Newsletter of the Pineapple Working Group of the International Society for Horticulture Science. Issue No. 14, May. Available at: http://www.ishs-horticulture.org/workinggroups/pineapple/PineNews14.pdf

ITC Market Insider, 2013. 'Gloomy outlook for the world pineapple market.' ITC, Thursday 12 December. Available at: www.intracen.org/gloomy-outlook-for-the-world-pineapple-market/

Jaeger, P., 2008. 'Ghana Export Horticulture Cluster Strategic Profile Study, Part I - Scoping review.' Prepared for World Bank Sustainable Development Network (WB-SDN),

Africa Region, Agriculture and Rural Development (AFTAR), The Republic of Ghana Ministry of Food and Agriculture, and European Union All ACP Agricultural Commodities Programme (EU-AAACP)

Jaffee, S. 2003. From challenge to opportunity: Transforming Kenya's fresh vegetable trade in the context of emerging food safety and other standards in Europe. Agriculture and Rural Development Discussion Paper No. 2. Washington, D.C.: World Bank

Jaffee, S. and O. Masakure. 2005. Strategic use of private standards to enhance international competitiveness: Vegetable exports from Kenya and elsewhere. Food Policy 30: 316- 333.

Jaffee, S. and S. Henson. 2004. Standards and Agro-Food Exports from Developing Countries: Rebalancing the Debate. World Bank Policy Research Working Paper No. 3348.

Jaffee, S., 1995. 'Transaction Costs, Risk and the Organization of Private Sector Food Commodity Systems.' In: S. Jaffee and J. Morton. eds. *Marketing Africa's High-Value Foods: Comparative Experiences of an Emergent Private Sector*. Iowa: Kendall-Hunt Publishing Company. Chapter 2, pp.21-64.

Jaffee, S., 2003. 'From Challenge to Opportunity: Transforming Kenya's Fresh Vegetable Trade in the Context of Emerging Food Safety and Other Standards in Europe.' World Bank, Agriculture and Rural Development Discussion Paper 2.

Jaffee, S., Siegel, P., and Andrews, C., 2008. 'Rapid Agricultural Supply Chain Risk Assessment: Conceptual Framework and Guidelines for Application.' Commodity Risk Management Group Agriculture and Rural Development Department, World Bank

Jaffee, S.M., and Henson, S., 2004. 'Standards and Agro-Food Exports from Developing Countries: Rebalancing the Debate.' World Bank Policy Research Working Paper 3348.

Jansen, H.G.P., van Tilburg, A., Belt, J. C., and Hoekstra, S., 1996. 'Agricultural marketing in the Atlantic zone of Costa Rica: a production, consumption and trade study of agricultural commodities produced by small and medium-scale farmers.' Centro Agronomico Tropical de Investigacion y Ensenanza, (CATIE) Technical Paper Series No. 271.

Jebuni, C.D., Oduro, A., Asante, Y., and Tsikata, G.K., 1992. 'Diversifying Exports: The Supply Response of Non-Traditional Exports to Ghana's Economic Recovery Programme.' London: Overseas Development Institute (ODI).

Jensen, M.F., 2005. 'Capacity Building for Pro-Poor Trade: Learning from Limitations in Current Models.' Paper commissioned for the 2005 Human Development Report. Human Development Report Office, Occasional Paper, UNDP.

Johnston, B.F., and Mellor, J.W., 1961. 'The Role of Agriculture in Economic Development.' The American Economic Review. Vol. 15, No. 4, pp. 566-593.

Kanbur, R., and Rauniyar, G., 2009. 'Conceptualizing Inclusive Development: With Applications to Rural Infrastructure and Development Assistance.' Asian Development Bank, Occasional Paper No. 7.

Kaplinsky, R., 2005. 'Globalization, Poverty and Inequality: Between a Rock and a Hard Place.' Cambridge: Policy Press.

Kaplinsky, R., 2000a. 'Globalisation and Unequalisation: What Can Be Learned from Value Chain Analysis?' The Journal of Development Studies, Vol. 37, No. 2, pp. 117-146.

Kaplinsky R., 2000b. 'Spreading the Gains from Globalization: What Can Be Learned from Value-Chain Analysis?' Institute of Development Studies (IDS), Working Paper 110.

Kaplinsky, R. and Morris, M., 2001. *A Handbook for Value Chain Research*. Prepared for the IDRC. Available at: http://asiandrivers.open.ac.uk/documents/Value_chain_Handbook_RKMM_Nov_2001.pdf

Kaplinsky, R. and Readman, J., 2001. 'Integrating SMEs in Global Value Chains: Towards Partnership for Development.' Vienna: UNIDO.

Kaplinsky, R., and Readman, J., 2000. 'Globalization and Upgrading: What Can (and cannot) be Learned from International Trade Statistics in the Wood Furniture Sector? 'Mimeo, Brighton, Centre for Research in Innovation Management, University of Brighton and Institute of development Studies, University of Sussex

Kastner, A.N.A., 2005. 'Competitiveness in Ghana's Horticultural Export Sector.' In: J. Kuada (ed.), *Internationalisation and Enterprise Development in Ghana*, London: Adonis and Abbey Publishers Ltd., chapter 2, pp. 25-53.

Kay, N., 2014. 'Competitive Strategy.' Edinburgh Business School. Heriot-Watt University.

Keane, J., 2008. 'A New Approach to Global Value Chain Analysis.' Overseas Development Institute (ODI) Working paper 293.

Ketels, C.H.M., and Memedovic, O., 2008. 'From clusters to cluster-based economic development.' International Journal of Technological Learning, Innovation and Development. Vol. 1, No. 3, pp. 375-392.

Key, N., and MacDonald, J., 2006. 'Agricultural Contracting: Trading Autonomy for Risk Reduction.' Economic Research Service, United States Department for Agriculture.

Khaler, M., and Lake, D.A., 2003. 'Globalization and Governance.' In: M. Kahler and D. A. Lake (eds.), *Governance in a Global Economy: Political Authority in Transition*. Princeton, NJ: Princeton University Press. Chapter 1, pp. 1-30.

Khattak, A., 2013. 'A Comparative Analysis of South Asian Apparel Firms in Global Value Chains: Governance, Institutions and Upgrading.' PhD thesis. The University of Auckland.

Kherallah, M., Delgado, C., Gabre-Madhin, E., Minot, N., and Johnson, M., 2000. 'The Road Half Traveled: Agricultural Market Reform in Sub-Saharan Africa.' Washington, DC: International Food Policy Research Institute (IFPRI).

Kingston, C. and Caballero, G., 2009. 'Comparing theories of Institutional Change.' Journal of Institutional Economics. Vol. 5, Issue 2, pp. 151-180.

Kirimi, L., Sitko, N., Jayne, T.S., Karin, F., Muyanga, M., Sheahan, M., Flock, J., and Gilbert Bor, G., 2011. 'A Farm Gate-to-Consumer Value Chain Analysis of Kenya's Maize

Marketing System.' MSU International Development Working Paper No.111.

Kirsten, J., and Satorius, K., 2002. 'Linking Agribusiness and Small-scale farmers in developing countries: is there a new role for contract farming?' Development Southern Africa. Vol. 19, No. 4, pp.503-529.

Kirsten, J.F., Karaan, A.S.M., and Dorward, A.R., 2009. 'Introduction to the Economics of Institutions.' In: J.F. Kirsten, A.R Dorward, C. Poulton and N. Vink (eds.), *Institutional Economics Perspectives on African Agricultural Development.* International Food Research Policy Institute, Washington D.C. Chapter 2, pp.35-74.

Kirsten, J.F., Dorward, A.R., Poulton, C., and Vink, N., 2009. *Institutional Economics Perspectives on African Agricultural Development.* Washington D.C.: International Food Research Policy Institute.

Kleemann, L., 2011. 'Organic Pineapple Farming in Ghana-A good choice for smallholders?' Kiel Institute for the World Economy, Working Paper No. 1671.

Kleemann, L., and Effenberger, A., 2010. 'Price Transmission in the Pineapple Market-What role for organic fruit?' Kiel Institute for the World Economy. Kiel Working Paper No. 1626.

Klein, B., Crawford, R.A., and Alchian, A.A., 1978. 'Vertical Integration, Appropriable Rents, and the Competitive Contracting Process.' Journal of Law and Economics. Vol. 21, No. 2, pp. 297-326

Klein, P., 2006. 'The Treatment of Frequency in Transaction Cost Economics.' Available at: http://organizationsandmarkets.com/2006/09/06/the-treatment-of-frequency-in-transaction-cost-economics/

Knack, S. and Keefer, P., 1997. 'Does social capital have an economic payoff.' The Quarterly Journal of Economics. Vol. 111, No. 4, pp. 1251-1288.

Knight, J., 1992. Institutions and Social Conflict. Cambridge, New York and Melbourne: Cambridge University Press

Knorringa, P., 1999. 'Agra: An Old Cluster Facing the New Competition.' World Development. Vol. 27, No. 9, pp. 1587 – 1604.

Knowles, T., Moody, R., McEachern, M.G., 2007. 'European food scares and their impact on EU food policy.' British Food Journal. Vol. 109, Issue 1, pp.43 – 67.

Koelble, T.A. 1995, 'The New Institutionalism in Political Science and Sociology.' Comparative Politics. Vol. 27, No. 2, pp. 231-43.

Koo, H-w., Huang, C-Y., and Kan, K., 2012. 'Interlinked Contracts: An Empirical Study.' Economica. Vol. 79, Issue 314, pp.350-377.

Kraybill D. S., and Weber B. A., 1995, 'Institutional change and economic development in rural America', American Journal of Agricultural Economics. Vol. 77, No. 5, pp. 1265-1270.

Krigsvold, M., 2000. 'The US Market for Organic Pineapple.' A report submitted by Chemonics International to USAID/Nicaragua for the Nicaragua Agriculture

Reconstruction Assistance Program (ARAP)

La Nación, 2010. 'Tierras para el cultivo de piña comienzan a escasear en el país' Published on 16 August 2010. Available at: http://www.nacion.com/economia/Tierras-cultivo-comienzan-escasear-pais_0_1141086019.html.

Lall, S., 1992. 'Technological Capabilities and Industrialization.' World Development, Vol.20, Issue 2. pp. 165-186.

Lanza, K.A., 1995. 'Institutionalizing Export and Investment Promotion Organizations: the case of Costa Rica's C.I.N.D.E.' CIDR Working Papers Series.

Laryea, A., and Akuoni, S., 2012. 'An Overview of Trade Policies and Developments in Ghana.' In: C. Ackah and E. Aryeetey (eds.), *Globalization, trade and poverty in Ghana.* Accra: Sub-Saharan Publishers. Chapter 2, pp. 10 – 32.

Leca, B., Battilana, J., and Boxenbaum, E., 2009. 'Agency and Institutions: A Review of Institutional Entrepreneurship.' The Academy of Management Annals. Vol. 3, Issue 1, pp 65-107.

Lee, G.C.-H., 2006. 'Private food standards and their impacts on developing countries.' Stagiaire: European Commission, DG Trade Unit G.

Lee, J., Gereffi, G. and Barrientos, S. 2011. 'Global Value Chains, Upgrading and Poverty Reduction.' Capturing the Gains Briefing Note 3. Available at: http://www.capturingthegains.org/pdf/ctg_briefing_note_3.pdf.

Lee, J., Gereffi, G., and Beauvais, J., 2012. 'Global value chains and agrifood standards: Challenges and possibilities for smallholders in developing countries.' Proceedings of the National Academy of Sciences of the United States of America, vol. 109, no. 31 (July 31, 2012), pp. 12326-12331. Part of Special Feature on "Agriculture Development and Nutrition Security.' Available at: SSRN: https://ssrn.com/abstract=1726062.

Leith, J. C., and Söderling, L., 2003. *Ghana—Long Term Growth, Atrophy and Stunted Recovery*. Sweden: Nordiska Afrikainstitutet.

Levi, M., 2000. 'When good defenses make good neighbours: a transaction cost approach to trust, the absence of trust distrust.' In: C. Ménard (ed.), *Institutions, Contracts and Organizations: Perspectives from New Institutional Economics.* Cheltenham, UK and Northampton, USA: Edward Elgar. Chapter 12, pp.137-157.

Levi, M., 1990, 'A Logic of Institutional Change' In: K.S. Cook and M. Levi (eds.), *The Limits of Rationality*. Chicago: Chicago University Press. Chapter 12, pp. 402-418.

Liu, P., 2009. Private standards in international trade: issues, opportunities and long-term prospects. FAO expert meeting, Feeding the world by 2050. Rome: FAO

Loeillet, D. and Paqui, T., 2010. 'Pineapple.' FruiTrop, no. 176, pp. 23–43. Accessed at http://passionfruit.cirad.fr/index.php/recherche/(numero_fruitrop)/176.

Maertens, M., and Swinnen, J.F., 2009. 'Trade, Standards, and Poverty: Evidence from Senegal.' World Development. Vol. 37, Issue 1, pp. 161-178

MAG, 2007. 'Caracterización y plan de acción para el desarrollo de la agrocadenade piña en la región Huetar Norte.' Ministerio de Agricultura y Ganadería, Dirección Regional Huetar Norte, Spet. 2007.

Makunike, C., 2007. Ghana's production, MD2 exports go up.' Published on 16 March 2007, FreshPlaza.com. Available at: http://www.freshplaza.com/2007/0316/1-9_gh_pineapple.htm

Manteaw, S.A, Sakyi-Dawson, O., Atengdem, P.B., and Sarpong, D.B., 2014. 'Implications of Policy on Publicly and Privately Driven Agricultural Industries: Case Study of Cocoa and Pineapple Value Chains in Ghana.' International Journal of Agricultural Extension. Vol.2, No.1, pp.65-70.

March, J. G. and Olsen, J. P., 1984. 'The New Institutionalism: Organizational Factors in Political Life.' American Political Science Review. Vol. 78, No. 3, pp. 738–49.

Marín-Odio, A., 2014. 'Global Value Chains: A Case Study on Costa Rica.' International Trade Centre Technical Paper, Geneva.

Market-Oriented Agriculture Programme (MOAP), 2010. 'Report on Pineapple Sub-sector.' Unpublished document, GIZ.

Masakure, O., and Henson, S., 2005. 'Why Do Small-Scale Producers Choose to Produce under Contract? Lessons from Nontraditional Vegetable Exports from Zimbabwe.' World Development. Vol. 33, No. 10, pp.1721-1733.

Masten S., Meehan J., and Snyder E., 1991. 'The costs of organization.' Journal of Law, Economics, and Organization. Vol. 7, No.1, pp. 1–25.

Mather, C., 2008. 'Upgrading in South Africa's Squid Value Chain.' In: C. Stringer and R. L. Heron (eds.), *Agri-food Commodity Chains and Globalising Networks.*, Aldershot, UK: Ashgate. Chapter 2, pp. 9-22.

Mayer, F., and Pickles, J., 2010. 'Re-embedding governance: Global apparel chains and decent work.' Capturing the gains Working Paper 2010/01. Available at: http://www.capturingthegains.org/publications/workingpapers/wp_201001.htm

MCC, 2012. 'Final Status Report: Ghana Compact.' Available at: https://assets.mcc.gov/documents/qsr-2012002102402-ghana.pdf

McCormick, D., 1999. 'African Enterprise Clusters and Industrialization: Theory and Reality.' World Development. Vol. 27, No. 9, pp.1531-1551.

McMillan, M., and Rodrik, D., 2011. 'Globalization, Structural Change and Productivity Growth.' NBER Working Paper No. 17143.

Medema, S.G. and Samuels, W.J., 2003. *The History of Economic Thought: A Reader*. London and New York: Routledge.

Merriam, S.B., 2009. *Qualitative Research: A Guide to Design and Implementation*. San Francisco, CA: John Wiley and Sons.

Meyer-Stamer, J., 2004. 'Paradoxes and ironies of locational policy in the new global

economy.' In: H. Schmitz (ed.), *Local Enterprises in the Global Economy: Issues of Governance and Upgrading*. Cheltenham and Massachusetts: Edward Elgar Publishing Limited.

Milanovic, B., 2002. 'Can we discern the Effect of Globalization on Income Distribution? Evidence from Household Budget Surveys.' World Bank Policy Research Working Paper 2876.

Milberg, W., 2008. 'Shifting Sources and Uses of Profits: Sustaining US Financialization with Global Value Chains.' Economy and Society. Vol. 37, Issue 3, pp. 420-451.

Miles, M.B. and Huberman, M.A., 1994. *Qualitative data analysis: an expanded sourcebook*. 2nd edition. London: Sage Publications.

Millennium Development Authority (MiDA), 2012. 'Meet the press: MCA Ghana Program at a Glance.' Tuesday, February 7, 2012 Conference Room Ministry of Information, Accra.

Millennium Development Authority (MiDA), 2013. 'Millennium Challenge Account Ghana Program: Compact Completion Report.' Millennium Challenge Corporation.

Miller, A., Dobbins, C., Pritchett, J., Boehlje, M., and Ehmke, C., 2004. 'Risk Management for Farmers.' Department of Agricultural Economics, Purdue University, Staff Paper 04-11.

Ministry of Finance and Economic Planning (MoFEP), 2012. 'The Harmonised System and Customs Tariff Schedules 2012.' MoFEP, Republic of Ghana.

Ministry of Finance and Economic Planning (MoFEP), 2006. 'The Budget Statement and Economic Policy of the Government of Ghana.' Presented to Parliament on 8th November, 2005. Republic of Ghana

Ministry of Finance and Economic Planning (MoFEP), 2004. 'The Budget Statement and Economic Policy of the Government of Ghana for the 2004 financial year.' Presented to Parliament on Thursday, 5th February, 2004. Republic of Ghana.

Ministry of Food and Agriculture (MOFA), 2016. 'Akwapim South Municipal.' Available at: http://mofa.gov.gh/site/?page_id=1495.

Ministry of Food and Agriculture (MOFA), 2013a. 'Agriculture in Ghana: Facts and Figures (2012)'. Statistics, Research and Information Directorate (SRID). Available at: http://www.agrofood-westafrica.com/fileadmin/user_upload/messen/agrofood_Westafrica/Prospekte/AGRICULTURE-IN-GHANA-FF-2012-nov-2013.pdf

Ministry of Food and Agriculture (MOFA), 2013b. '2013 Agric. Sector Annual Progress Report.' Ghana Ministry of Food and Agriculture.

Ministry of Food and Agriculture (MOFA), 2013c. 'Pilot Program based budget (PBB) for 2013-2015, Final Draft.' Ministry of Food and Agriculture, Ghana.

Ministry of Food and Agriculture (MOFA), 2011. 'Agriculture in Ghana: Facts and Figures (2010).' Statistics, Research and Information Directorate (SRID). Available at: http://mofa.gov.gh/site/wp-content/uploads/2011/10/AGRICULTURE-IN-GHANA-

FF-2010.pdf.

Ministry of Food and Agriculture (MOFA), 2010. 'Agriculture in Ghana: Facts and Figures (2009).' Statistics, Research and Information Directorate (SRID) Available at: http://mofa.gov.gh/site/wp-content/uploads/2011/04/mofa_facts_and_figures .pdf.

Ministry of Food and Agriculture (MOFA), 2007. 'Food and Agriculture Sector Development Policy (FASDEP II).' Republic of Ghana.

Ministry of Food and Agriculture (MOFA), 2004. Agricultural Services Sub-Sector Investment Program -Horticulture Export Industry Initiative Detailed Work plan 2004 – 2006. Ministry of Food and Agriculture, Accra 2004. Available at: http://www.hubrural.org/IMG/pdf/ghana_agricultural_services_sub_sector_investment. pdf.

Minot, N., 1986. 'Contract Farming and its effect on small farmers in Less Developed Countries.' Michigan State University (MSU), Working Paper No. 31.

Minot, N., and Ngigi, M., 2004. 'Are Horticultural Exports a Replicable Success Story? Evidence from Kenya and Côte d'Ivoire.' EPTD/MTID Discussion paper. Washington DC: International Food Policy Research Institute (IFPRI).

Mitchell, J., and Coles, C. (eds.), 2011. *Markets and Rural Poverty: Upgrading in Value Chains*. UK: Earthscan.

Mohan, S., 2016. 'Institutional Change in Value Chains: Evidence from Tea in Nepal.' World Development. Vol. 78, pp.52-65.

Morrison, A., Pietrobelli, C. And Rabellotti, R., 2008, 'Global Value Chains and Technological Capabilities: A Framework to Study Industrial Innovation in Developing Countries.' Oxford Development Studies. Vol. 36, Issue 1, pp. 39-58.

Morse, J.M., Barrett, M., Mayan, M., Olson, K., and Spiers, J., 2002. 'Verification Strategies for Establishing Reliability and Validity in Qualitative Research.' International Journal of Qualitative Methods. Vol. 1, No. 2, pp.13-22.

Morton, J.F, 2007. 'The impact of climate change on smallholder and subsistence agriculture.' *Proceedings of the National Academy of Sciences (PNAS)*. Vol. 104, No. 50, pp. 19680-19685.

Murphy, J. T., 2007. 'The Challenge of Upgrading in African Industries: Socio-Spatial Factors and the Urban Environment in Mwanza, Tanzania.' World Development, Vol. 35, Issue 10, pp. 1754-1778.

Nadvi, K., 2008. 'Global standards, global governance and the organization of global value chains.' Journal of Economic Geography. Vol. 8, Issue 3, pp. 323–343.

Nadvi, K., and Halder, G., 2005. 'Local clusters in global value chains: exploring dynamic linkages between Germany and Pakistan.' Entrepreneurship and Regional Development. Vol. 17, Issue 5, pp. 339-363.

Nadvi, K., and Barrientos, S., 2004. 'Industrial Clusters and Poverty Reduction: Towards a

Methodology for poverty and social impact assessment of cluster development initiatives.' Vienna: UNIDO.

Nagayets, O., 2005. 'Small Farms: Current Status and Key Trends.' Information Brief Prepared for the Future of Small Farms Research Workshop, Wye College, June 26-29, 2005.

Narrod, C., Roy, D., Okello, J., Avendano, B., Rich, K., and Thorat, A., 2009. 'Public–private partnerships and collective action in high value fruit and vegetable supply chains.' Food Policy Vol, 34, Issue 1, pp. 8-15.

National Development Planning Commission (NDPC), 2014. 'Ghana shared growth and development agenda (GSGDA) II, 2014-2017. Volume I: Policy Framework.' Government of Ghana.

Natural Resources Institute (NRI), 2010. 'Ghana Export Horticulture Cluster Strategic Profile Study. Part II: Recommended actions and Part III: Background papers.' Prepared for the World Bank, The Republic of Ghana Ministry of Food and Agriculture and EU All ACP Agricultural Commodities Programme. University of Greenwich, UK.

Navas-Alemán, L., 2011. 'The Impact of Operating in Multiple Value Chains for Upgrading: The Case of the Brazilian Furniture and Footwear Industries.' World Development. Vol.39, Issue 8, pp.1386-1397.

Nedelcovych, M. and Shiferaw, D., 2012. 'Private Sector Perspectives for Strengthening Agribusiness value chains in Africa: Case Studies from Ethiopia, Ghana, Kenya and Mali.' Partnership to Cut Hunger and Poverty in Africa.

Nee, V., 2003. 'The New Institutionalism in Economic and Sociology.' Forthcoming In: H. Smelser and R. Swedberg (eds.), *Handbook for Economic Sociology*. Princeton: Princeton University Press.

Neilson, J., Pritchard, B., and Yeung, H. W-C., 2014. 'Global value chains and global production networks in the changing international political economy: An introduction.' Review of International Political Economy. Vol. 21, Issue 1, pp. 1-8.

Neilson, J., and Pritchard, B., 2009. *Value Chain Struggles: Institutions and Governance in the Plantation Districts of South India*. Malaysia: Wiley-Blackwell

Niedergassel, B., 2011. *Knowledge Sharing in Research Collaborations: Understanding the Drivers and Barriers*. Germany: Gabler Verlag.

Nilson, J., and Lind, L.W., 2015, 'Institutional changes in the Swedish meat industry.' British Food Journal. Vol. 117, Issue 10, pp.2501 – 2514.

Nilsson, J., 1997. 'Inertia in the Cooperative Remodelling.' Journal of Cooperatives. Vol. 12, pp. 62-73. Available at: http://purl.umn.edu/46192.

Nissanke, M., 2015. 'Linking Economic Growth to Poverty Reduction under Globalisation: A Case for Harnessing Globalisation for the Poor in Sub-Saharan Africa.' In: A. McKay and E. Thorbecke (eds.), *Economic Growth and Poverty Reduction in Sub-Saharan Africa: Current and Emerging Issues*. Oxford: Oxford University Press. Chapter 8, pp.227-258.

Nissanke, M., 2009. 'Linking Economic Growth to Poverty Reduction under Globalisation: A Case for Harnessing Globalisation for the Poor in Sub-Saharan Africa.' African Economic Research Consortium.

Nissanke, M., and Thorbecke, E. (eds.), 2006. *The Impact of Globalization on the World's Poor: Transmission Mechanisms*. Studies in Development Economics and Policy. Basingstoke: Palgrave Macmillan.

Nonaka, I., 1994. 'A Dynamic Theory of Organization Knowledge Creation.' Organization Science. Vol.5, No.1, pp. 14-37.

North, D., 2008. 'Institutions and their consequences for economic performance.' In: K.S. and M. Levi (eds.), *The Limits of Rationality*. Chicago and London: University of Chicago Press. Chapter 11, pp. 383-401.

North, D., 2003. 'Understanding the process of economic change.' Forum Series on the Role of Institutions in Promoting Economic Growth. Mercatus Center, Washington D.C.

North, D., 1995. 'The New Institutional Economics and Third World development.' In: J. Harris, J. Hunter and Lewis, C. (eds.), *The New Institutional Economics and Third World Development*. London: Routledge. Chapter 2, pp. 17-26.

North, D., 1991. 'Institutions.' The Journal of Economic Perspectives. Vol. 5, No. 1, pp. 97-112.

North, D., 1990. *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.

North, D., 1989. 'Institutions and Economic Growth: An Historical Introduction.' World Development. Vol. 17, No. 9, pp.1319-1332.

North, D. 1971. 'Institutional Change and Economic Growth.' The Journal of Economic History. Vol. 31, No.1. pp. 118-125.

Nugraha, D.S., 2010. 'Extending the Concept of Value Chain Governance: An Institutional Perspective. Comparative Case Studies from Diary Value Chains in Indonesia.' PhD Dissertation, University of Berlin.

OECD and the World Bank, 2015. 'Inclusive Global Value Chains Policy options in trade and complementary areas for GVC Integration by small and medium enterprises and low-income developing countries.' Report prepared for submission to G20 Trade Ministers Meeting Istanbul, Turkey, 6 October 2015.

OECD/WTO, 2013. Aid for Trade at a Glance 2013: Connecting to Value Chains. Available at: https://www.wto.org/english/res_e/booksp_e/aid4trade13_e.pdf

OECD, 2014. 'Global Value Chains: Challenges, Opportunities, and Implications for Policy.' Report prepared for submission to the G20 Trade Ministers Meeting, Sydney, Australia. 19 July 2014. Available at: http://www.oecd.org/tad/gvc_report_g20_july_2014.pdf

OECD, 2007. 'Market Access and Private Standards: A Case of the Ghana Fruit Markets.'

Directorate for Food, Agriculture and Fisheries, OECD.

Olson, M., 1965. 'The Logic of Collective Action: Public Goods and the Theory of Groups.' London: Harvard University Press

Oro, K. and Pritchard, B., 2011. 'The Evolution of Global Value Chains: Displacement of captive upstream investment in the Australia-Japan beef trade.' Journal of Economic Geography, Vol. 11, Issue 4, pp. 709-729.

Osei-Boateng, C., and Ampratwum, E., 2011. 'The Informal Sector in Ghana.' Friedrich Ebert Stiftung Foundation, Ghana Office.

Ouma, S., 2015. *Assembling Export Markets: The Making and Unmaking of Global Food Connections in West Africa.* UK: John Wiley and Sons, Ltd.

Ouma, S., 2010. 'Global standards, local realities: private agrifood governance and the restructuring of the Kenyan horticulture industry.' Economic Geography. Vol. 86, Issue 2, pp. 197–222.

Ouma, S., Boeckler, M., and Linder, P., 2013. 'Extending the margins of marketization Frontier regions and the making of agro-export markets in northern Ghana.' Geoforum, Vol. 48, pp. 225-235

Palma, J.G., 2011. 'Homogeneous middles vs. heterogeneous tails, and the end of the 'Inverted-U': the share of the rich is what it's all about.' Cambridge Working Papers in Economics (CWPE) 1111. J

Palpacuer, F., 2008. 'Bringing the social context back in: governance and wealth distribution in global commodity chains.' Economy and Society, Vol. 37 No. 3, pp. 393-419.

Parrilli, M.D., Nadvi, K. and Yeung, W-C. H., 2013. 'Local and Regional Development in Global Value Chains, Production Networks and Innovation Networks: A Comparative Review and the Challenges for Future Research.' European Planning Studies, Vol. 12, No.7, pp.967-988.

Paull, R.E., and Chen, C.C., 2014. 'Pineapple: Postharvest Quality-Maintenance Guidelines.' College of Tropical Agriculture and Human Resources, University of Hawai'i at Manoā . Available at: http://www.ctahr.hawaii.edu/oc/freepubs/pdf/F_N-32.pdf.

Paull, R.E., and Duarte, 2011. 'Tropical fruits.' In: J. Atherton (ed.) Crop Production Science in Horticulture Series. Oxfordshire: CAB International. Vol. 1, second edition, pp. 123-152.

Paus, E., 2005. *Foreign Investment, Development, and Globalization: Can Costa Rica Become Ireland?* US: Palgrave Macmillan

Pay, E., 2009. 'The market for organic and fair-trade mangoes and pineapples.' Study prepared in the framework of FAO project GCP/RAP/404/GER: Increasing incomes and food security of small farmers in West and Central Africa through exports of organic and fair-trade tropical products. Rome: FAO.

Perez-Aleman, P., 2000. 'Learning, Adjustment and Economic Development:

Transforming Firms, The State and Associations in Chile.' World Development Vol. 28, No. 1, pp. 41- 55.

Pickles, J., Smith, A., Bucě k, M., Roukova, P., Begg, R., 2006. 'Upgrading, changing competitive pressures, and diverse practices in the East and Central European apparel industry.' Environment and Planning A. Vol. 38, No. 12, pp. 2305 – 2324.

Pietrobelli, C., 2008. 'Global value chains in the least developed countries of the world: threats and opportunities for local producers.' International Journal of Technological Learning, Innovation and Development. Vol.1, No. 4, pp. 459-481.

Pietrobelli, C., and Rabellotti, R., 2011. 'Global value chains meet innovation systems.' World Development. Vol.39, No. 7, pp. 1261-1269.

Pietrobelli, C. and Rabellotti, R., 2004. 'Upgrading in Clusters and Value Chains in Latin America: The Role of Policies.' Washington DC: Inter-American Development Bank.

Pietrobelli, C., and Saliola, F., 2008. 'Power relationships along the value chain: multinational firms, global buyers and performance of local suppliers.' Cambridge Journal of Economics, Vol.32, Issue 6, pp.957-962.

Piñeiro, M., and Diaz Ríos, L. B., 2007. *Implementing programmes to improve safety and quality in fruit and vegetable supply chains: Benefits and drawbacks: Latin American case studies*. Rome: FAO. Available at: ftp://ftp.fao.org/docrep/fao/010/a1505e/a1505e.pdf

Ponte, S., 2007. 'Governance in the global value chain for South African wine.' TRALAC Working Paper 2007/9, Stellenbosch, South Africa: Trade Law Centre for Southern Africa.

Ponte, S., and Ewert, J., 2009. 'Which way is 'Up' in upgrading?' Trajectories of change in the value chain for South African wine.' World Development. Vol. 64, No.10, pp. 1637 – 1650.

Porter, M. E., 1998. Clusters and the New Economics of Competition. Harvard Business Review. Available at: http://hbr.org/product/clusters-and-the-new-economics-of-competition/ an/98609-PDF-ENG

Porter, M. E., 1985. *Competitive Advantage: creating and sustaining superior performance.* New York: The Free Press.

Poulton C., and Lyne, M.C., 2009. 'Coordination for Market Development.' In: J.F. Kirsten, A.R. Dorward, C. Poulton and N. Vink (eds.), *Institutional Economics Perspectives on African Agricultural Development*. Washington, D.C.: IFPRI. Chapter 5, pp. 143-184.

Powell, W.W., 1990. 'Neither Markets nor Hierarchy: Network Forms of Organization.' Organizational Behaviour, Vol. 12, pp. 295-336.

Prasad, E., Rogoff, K., Wei, S-J and Kose, M. A., 2003. 'The effects of financial globalization on developing countries: some empirical evidence.' IMF Occasional Paper 220, International Monetary Fund, Washington DC.

Promotora del Comercio Exterior de Costa Rica (PROCOMER), 2014. 'Estadísticas de Comercio Exterior de Costa Rica 2013.' Dirección de Inteligencia Comercial, Mayo 2014.

Promotora del Comercio Exterior de Costa Rica (PROCOMER), 2009. 'Estadísticas de Comercio Exterior de Costa Rica 2008.' Dirección de Inteligencia Comercial, Mayo 2009.

Punch, K.F., 1998. *Introduction to Social Research: Quantitative and Qualitative Approaches*. London: Sage Publications Ltd.

Quartey, P., 2005. 'Financial Sector Development, Savings Mobilisation and Poverty Reduction in Ghana.' United Nations University (UNU-WIDER), Research Paper No. 2005/71.

Quijandría, G., Berrocal, J. and Pratt, L., 1997. 'La Industria de la Piña en Costa Rica Análisis de Sostenibilidad.' Available at: https://www.incae.edu/EN/clacds/publicaciones/pdf/cen707.pdf

Raikes, P., Jensen, M.F., and Ponte, S., 2000. 'Global commodity chain analysis and the French filière approach: comparison and critique.' Economy and Society. Vol. 29, Issue 3, pp. 390-417.

Ramirez, P., and Rainbird, H., 2010. 'Making the connections: bringing skill formation into global value chain analysis.' Work, Employment and Society. Vol. 24, No. 4, pp. 699 - 710.

Rajalahti, R., Janssen, W., and Pehu, E., 2008. 'Agricultural Innovation Systems: From Diagnostics towards Operational Practices.' The World Bank Agriculture and Rural Development Department Discussion Paper 38.

Raynolds, L., 2000. 'Negotiating Contract Farming in the Dominican Republic.' Human Organization.' Vol. 59, No. 4, pp. 441- 451.

Reardon, T., Barrett, C.B. and Swinnen, J.F.M. 2009. 'Agrifood Industry Transformation and Small Farmers in Developing Countries.' World Development. Vol. 37, No.11, pp.1717-1727.

Reardon, T., and Berdegué, J. A., 2002. 'The Rapid Rise of Supermarkets in Latin America: Challenges and Opportunities for Development.' Development Policy Review. Vol. 20, Issue 4, pp. 371- 388.

Rehber, E., 2000. 'Vertical Coordination in the Agro-Food Industry and Contract Farming: A Comparative Study of Turkey and the USA.' Food Market Policy Center Research Report No.52.

Reindfliesch, A., and Heide, J.A., 1997. 'Transaction Cost Analysis: Past, Present and Future Applications.' Journal of Marketing. Vol. 61, No. 4, pp. 30 -54.

Ridler, N., 1993. 'Fixed Exchange Rates and Structural Adjustment Programmes: Côte D'Ivoire.' The Journal of Modern African Studies, Vol. 31, No. 2, pp. 301-308.

Riisgaard, L., 2009. 'Global value chains, labour organization and private social standards: Lessons from East African cut flower industries.' World Development. Vol.37, No.2, pp. 326-340.

Rodrik, D., 2007. *One Economics Many Recipes: Globalization, Institutions and Economic Growth.*

USA: Princeton University Press

Ross, W., 2009. 'Ghana's juicy economic lesson.' Published on 13 March 2009, BBC News. Available at: http://news.bbc.co.uk/1/hi/world/africa/7939221.stm

Rossi, A., 2013. 'Does Economic Upgrading Lead to Social Upgrading in Global Production Networks? Evidence from Morocco.' World Development. Vol. 46, pp. 223-233.

Rottger, A., 2004. 'Strengthening Farm Agribusiness Linkages in Africa: Summary Results of five country studies in Ghana, Nigeria, Kenya, Uganda and South Africa.' FAO Agricultural Management, Marketing and Finance Service (AGSF) Occasional Paper No. 6.

Ruester, S., 2010. 'Recent Developments in Transaction Cost Economics.' Resource Markets, WP-RM-18.

Saliola, F. and Zanfei, A., 2009. 'Multinational firms, global value chains and the organization of knowledge transfer.' Research Policy, Vol. 38, Issue 2, pp.369-381.

Sarpong, D. B., 2002. 'Farm Size, Resource Use Efficiency and Rural Development: TechnoServe and Small-Scale Pineapple Farmer Groups in Ghana.' Issues in African Rural Development Monograph Series, 30.

Sauls, J.W., 1998. 'Home fruit production-pineapple.' Texas Citrus and Subtropical fruits. Viewed 19 May 2016. Available at: http://aggie-horticulture.tamu.edu/citrus/pineapple.htm.

Schmitz, H., 2004. 'Globalized localities.' In: H. Schmitz (ed.) *Local Enterprises in the Global Economy: Issues of Governance and Upgrading*. Cheltenham and Massachusetts: Edward Elgar Publishing Limited. Chapter 1, pp. 1-19.

Schmitz, H., and Knorringa, H., 2000. 'Learning from Global buyers.' Journal of Development Studies. Vol. 37, No. 2, pp. 177–205.

Schmitz, H., 1999a. 'From ascribed to earned trust in exporting clusters.' Journal of International Economics. Vol. 48, Issue 1, pp. 139-150.

Schmitz, H., 1999b. 'Global Competition and Local Cooperation: Success and Failure in the Sinos Valley, Brazil.' World Development, Vol. 27, No. 9, pp. 1627-1650.

Schmitz, H., and Nadvi, K., 1999. 'Clustering and Industrialization: An Introduction.' World Development. Vol. 27, Issue 9, pp. 1501-1514.

Schrekenburg, K., and Mitchell, J., 2011. 'Who Runs this Place? The External Enabling Environment for Value Chain Development.' In: J. Mitchell and C. Coles. eds. *Markets and Rural Poverty: Upgrading in Value Chains*. London and Washington DC: Earthscan. Chapter 9, pp. 217 – 234.

Schultz, T. W., 1980. 'The Economics of Being Poor.' Journal of Political Economy. Vol. 88, No. 4, pp.639-651.

Scott, W.R., 2008. *Institutions and Organizations: Ideas and Interests*. 3rd edition. Thousand Oaks, California: Sage Publications.

Secretaría Ejecutiva de Planificación Sectorial Agropecuaria (SEPSA), 2004. 'Boletín Estadístico Agropecuario Nº 15.' Available at: http://www.infoagro.go.cr/BEA/BEA15.pdf.

Secretaría Ejecutiva de Planificación Sectorial Agropecuaria (SEPSA), 1995. 'Perfil de la actividad piñera (Ananas Comosus L..) en Costa Rica.' Available at: http://www.mag.go.cr/bibliotecavirtual/E16-1776.pdf.

Sefa-Dedeh, S., 2005. 'Ghana Private-Public Partnership Food Industry Development Program.' Final report for USAID Associate Cooperative Agreement.

Selwyn, B., 2012. 'Beyond firm-centrism: re-integrating labour and capitalism into global commodity chain analysis.' Journal of Economic Geography. Vol. 12, Issue 1, pp. 205-226.

Selwyn, B., 2008. 'Institutions, upgrading and development: evidence from north east Brazilian export horticulture.' Competition and Change, Vol. 12, No.4. pp. 377-396.

Shepherd, A.W., 2007. 'Approaches to Linking Producers to Markets: A Review of Experiences to Date.' Agricultural Management, Marketing and Finance Occasional Paper 13. Food and Agriculture Organization of the United Nations, Rome, Italy.

Shepsle, K.A., 1989, 'Studying Institutions: Some Lessons from the Rational Choice Approach.' Journal of Theoretical Politics. Vol. 1, pp. 131-47

Siegel, P., and Jaffee, S., 2007. 'Assessing agri-food supply chain risk & risk management: Conceptual framework and guidelines for application.' CRMG / Agricultural and Rural Development Department Discussion Note.

Silverman, D., 2010. *Doing Qualitative Research*. 3rd edition. London: Sage Publications Ltd.

Sindzingre, A., 2003. 'Institutions and Development: Some Theoretical Elements.' Centre National de la Recherche Scientifique (CNRS) Paris.

Sirmon, D.G., Hitt, M.A., and Ireland, R.D., 2007. 'Managing firm resources in dynamic environments to create value: looking inside the black box.' Academy of Management Review. Vol. 32, No. 1, pp.273-292.

Sitkin, S.B., and Roth, N. L., 1993. 'Explaining the Limited Effectiveness of Legalistic "Remedies" for Trust/ Distrust.' Organization Science, Vol. 4, No. 3, pp. 367-392.

Smith, A., Rainnie, A., Dunford, M., Hardy, J., Hudson, R., and Sadler, D., 2002. 'Networks of value, commodities and regions: reworking divisions of labour in macro-regional economies.' Progress in Human Geography, Vol. 26, Issue 1, pp. 41–63.

Sowa, N. K. 2002. 'Financial Sector Reform Policies and Poverty Reduction.' Working Paper, Center for Policy Analysis (CEPA), Accra, Ghana.

Staritz, C., 2012. 'Value Chains for Development? Potentials and Limitations of Global Value Chain Approaches in Donor Interventions.' Austrian Research Foundation for International Development, Working Paper No. 31.

Staritz, C., and Reis, J. G., (eds.) (2013). *Global Value Chains, Economic Upgrading, and Gender. Case Studies of the Horticulture, Tourism and Call Center Industries,* Washington, DC: The World

Bank

Sturgeon. T., 2009. 'From Commodity Chains to Value Chains: Interdisciplinary Theory Building in an Age of Globalization.' In: J. Bair (ed.), *Frontiers of Commodity Chain Research*. Stanford: Stanford University Press. Chapter 6, pp.110-135.

Sturgeon, T., 2008. 'From Commodity Chains to Value Chains: Interdisciplinary Theory Building in an Age of Globalization.' Massachusetts Institute of Technology Working Paper 2008-02.

Sturgeon, T., 2002. 'Modular Production Networks. A New American Model of Industrial Organization.' Industrial and Corporate Change. Vol.11, No. 3, pp. 451 -496.

Sugden, R., 1989. 'Spontaneous Order.' The Journal of Economic Perspectives. Vol. 3, No. 4, pp. 85-97.

Suzuki, A., 2014. 'The Fresh Pineapple Export Industry in Ghana: The Role of Smallholders in High Value Horticultural Supply Chain.' In: T. Fukunishi (ed.), *Delivering Sustainable Growth in Africa: African Farmers and Firms in a Changing World*. UK: Palgrave Macmillian. Chapter 3, pp. 54-106

Suzuki, A., Jarvis, L.S., and Sexton, R.J., 2011. 'Partial Vertical Integration, Risk Shifting, and Product Rejection in the High-Value Export Supply Chain: The Ghana Pineapple Sector.' World Development. Vol. 39, No.9, pp.1611-1623.

Suzuki, A., Jarvis L.S., Sexton, R.J., 2008. 'Rejection of Purchase: An Empirical Study on Contract Farming in the Pineapple Industry in Ghana.' Paper presented at the CSAE Annual Conference, 16-18 March, 2008. Available at: www.csae.ox.ac.uk/conferences/2008-EDiA/paperlist.htm.

Swinnen, J., Deconinck, K., Vandemoortele, T., and Vandeplas, A., 2015. *Quality Standards, Value Chains, and International Development*. Cambridge, UK: Cambridge University Press

Swinnen, J., and Vandeplas, A., 2011. 'Rich Consumers and Poor Producers: Quality and Rent Distribution in Global Value Chains.' Journal of Globalization and Development. Volume 2, Issue 2, pp. 1-28.

Swinnen, J., 2006. 'When the market comes to you or not: the dynamics of vertical coordination in agri-food chains in Europe and Central Asia.' World Bank.

Tabellini, G., 2005. 'Culture and Institutions: Economic Development in the regions of Europe.' CESIFO Working Paper No. 1492.

TAC, 2004. 'EU market access opportunities for Ghana and position for EPA negotiations.' Capacity building in support of Preparation of Economic Partnership Agreement-8ACP TPS 110/Project No. 043. Available at: http://www.inter-reseaux.org/IMG/pdf/ghana_etude_ape.pdf.

Taglioni, D., and Winkler, D., 2014. 'Making Global Value Chains Work for Development.' World Bank-Economic Premise, The World Bank. Issue 143, pp.1-10.

Takane, T., 2004. 'Smallholders and Nontraditional Exports under Economic Liberalization: The Case of Pineapples in Ghana.' African Study Monographs, Vol. 25,

Issue 1, pp. 29-43.

Talbot, J.M., 2009. 'The Comparative Advantages of Tropical Commodity Chain Analysis.' In: J. Bair (ed.), *Frontiers of Commodity Chain Research.* Stanford: Stanford University Press. Chapter 5, pp. 93-109.

Tennent, R. and Lockie, S., 2011. 'Production Relations under GLOBALG.A.P: The Relative Influence of Standards and Retail Market Structure.' Sociologia Ruralis. Vol 52, No.1, pp. 31 – 37.

Thelen, K. 1999, 'Historical Institutionalism in Comparative Politics,' Annual Review of Political Science, Vol. 2, pp. 374-77.

Thomsen, L., 2007. 'Accessing global value chains? The role of business–state relations in the private clothing industry in Vietnam.' Journal of Economic Geography. Vol 7, No 6, pp. 753–776.

Thorbecke, E., 1993. 'Impact of State and Civil Institutions on the Operation of Rural Market and Nonmarket Configurations.' World Development. Vol. 21, No. 4, pp.591-605.

Thorbecke, E., and Cornelisse, P., 2014. 'Exchange and Development.' Revue d'économie du développement. Vol. 21, pp.5-24.

Thorelli, H.B., 1986. 'Networks: Between Markets and Hierarchies.' Strategic Management Journal. Vol. 7, No. 1, pp. 37-51.

Tonjes, J-J., 1994. 'The Pineapple in the Atlantic Zone of Costa Rica – A Study on the sustainability of the cropping system of pineapple in the Atlantic zone of Costa Rica.' Ministerio de Agricultura y Gandaderia de Costa Rica (MAG), Report No.89 and Field Report No.135.

Trade Map, International Trade Centre www.intracen.org/marketanalysis

Trienekens, J. and Willems, S., 2007. 'Innovation and Governance in International Food Supply Chains: The Cases of Ghanaian Pineapples and South African Grapes.' International Food and Agribusiness Management Review. Vol. 10, Issue 4. Pp.42-63.

Ulleberg, I., 2009, Incentive structures as a capacity development strategy in service delivery.' Paris: UNESCO.

UNCTAD, 2013. 'Global Value Chains: Investment and Trade for Development.' New York and Geneva: United Nations.

UNCTAD Infocomm, 'Commodity Profile: Pineapple. Available at: http://www.unctad.info/en/Infocomm/AACP-Products/COMMODITY-PROFILE---Pineapple/

UNCTAD, 2011b. 'Commodities for Industrial Development: Making Linkages Work.'. Development Policy, Statistics and Research branch. Working paper 01/2011.

UNCTAD, 2007. Food Safety and Environmental Requirements in Export Markets - Friend or Foe for Producers of Fruit and Vegetables in Asian Developing Countries? Geneva: United Nations.

UNDP, 2007. *Governance Indicators: A User's Guide*. New York: UNDP Available at: http://www.undp.org/content/dam/aplaws/publication/en/publications/democratic-governance/oslo-governance-center/governance-assessments/governance-indicators-2nd-edition

UNECA, 2013. Making the Most of Africa's Commodities: Industrializing for Growth, Jobs and Economic Transformation. Addis Ababa: Economic Commission for Africa.

UNECE, 2012a. *'Pineapples.'* Pineapple Brochure Presentation. Version-October 2011. Available at: https://www.unece.org/fileadmin/DAM/trade/agr/meetings/ge.01/2012/PineappleBrochurePresentation.pdf

UNECE, 2012b. 'Standard FFV-49: Pineapple.' New York and Geneva: United Nations.

UNIDROIT, 2014. 'Price Mechanisms in Agricultural Production Contracts.' UNIDROIT Working Group for the preparation of a Legal Guide on Contract Farming, Fourth Meeting.

USAID, 2011. 'USAID Agrifuturo Program Production Guide to MD2 Pineapples in Mozambique.' Publication prepared for Agrifuturo by Ian Redman and Dermot Cassidy of sub-Saharan Agricultural Associates for review by the United States Agency for International Development.

USAID, 2009. 'Trade and Investment Program for a Competitive Export Economy Final Report. Available at: http://pdf.usaid.gov/pdf_docs/Pdacp167.pdf

USAID, 2006. 'Trade and Investment Program for a Competitive Export Economy (TIPCEE): Semi-Annual Report for Partners.' October 2005 – September 2006, prepared by Chemonics International Inc. for USAID.

USAID, 2005. 'USAID/Ghana Trade and Investment Reform Program (TIRP) Increased Private Enterprise Performance (IPEP) Component.' Final Report, July 2005, Submitted by AMEX International.

USAID, 2003. 'Ghana Trade and Investment Reform Program' USAID/Ghana, Project Final Evaluation, March 2003. Submitted by Management Systems International (external evaluation).

USAID, n.d. 'Program Assistance Identification Proposal (PAIP): Ghana Trade and Investment Program (TIP).' Available at: http://pdf.usaid.gov/pdf_docs/PDBCC273.pdf

USAID/Guinea, 2006. 'Fresh pineapples in the Republic of Guinea: An investment analysis.' Report prepared by Chemonics International Inc. for USAID, September 2006.

Vagneron, I., Faure, G., and Loeillet, D., 2009. 'Is there a pilot in the chain? Identifying the key drivers of change in the fresh pineapple sector.' Food Policy. Vol. 34, Issue, 5, pp. 437-446.

Van Wijk, J., and Kwakkenbos, H., 2012. 'Beer Multinationals Supporting Africa's Development? How Partnerships include Smallholders into Sorghum-beer supply chains.' In: M.P. van Dijk and J. Trienekens, eds. *Global Value Chains: Linking Local Producers from*

Developing countries to International Markets. Amsterdam: Amsterdam University Press. Chapter 4, pp.71-88.

Voisard, J-M., and Jaeger, P., 2003. 'Ghana Horticulture Sector Development Study Including Agricultural Sub-Sector Investment Program Restructuring.' Prepared for ESSD Department of the World Bank. Available at: http://hubrural.org/IMG/pdf/ghana_horticultural_development_study.pdf

Vorley, B., and Proctor, F., 2008. 'Inclusive Business in Agrifood Markets: Evidence and Action.' A report based on proceedings of an international conference held in Beijing March 5–6, 2008. Available at: http://pubs.iied.org/pdfs/16503IIED.pdf (accessed 15 May 2017)

Wetzel, D., 2000. 'Promises and Pitfalls in Public Expenditure.' In: E. Aryeetey, J. Harrigan and M. Nissanke (eds.), *Economic Reforms in Ghana: The Miracle and the Mirage*, Oxford: James Currey, chapter 6, pp.115-131.

Whitfield, L., 2010a. 'Pineapple Export Industry in Ghana.' Elites, Production and Poverty Research Program Conference, Accra, Ghana, 13-15 January.

Whitfield, L. 2010b. 'Developing Technological Capabilities in Agro- Industry: Ghana's Experience with Fresh Pineapple Exports.' Danish Institute for International Studies (DIIS) Working Paper 28. Copenhagen: DIIS.

Whitfield, L., 2011. 'Political Challenges to Developing Non-Traditional Exports in Ghana: The Case of Horticulture Exports. Danish Institute for International Studies (DIIS) Working Paper 2011:29

Whitfield, L., 2012. 'Developing Technological Capabilities in Agro-Industry: Ghana's Experience with Fresh Pineapple Exports.' Journal of Development Studies. Vol.48, No.3, pp.308-321.

Whitman, G. 2007. 'Slavery, Snakes, and Switching: The Role of Incentives in Creating Unintended Consequences.' Library of Economics and Liberty. Featured Article, 7 May 2007.Available at: http://www.econlib.org/library/Columns/y2007/Whitmanincentives.html. (accessed 13 February 2014)

Williams, T., 2009. 'An African Success Story: Ghana's Cocoa Marketing System.' Institute of Development Studies (IDS), University of Sussex Working Paper No. 318.

Williamson, C., and Kerekes, C., 2011. 'Securing Private Property: Formal versus Informal Institutions.' The Journal of Law and Economics. Vol. 54, No. 3, pp. 537-572.

Williamson, C., 2009. 'Informal Institutions Rule: Institutional Arrangements and Economic Performance.' Public Choice Vol. 139, pp. 371 – 387.

Williamson, O. E., 2000. 'The New Institutional Economics: Taking Stock, Looking Ahead.' Journal of Economic Literature. Vol.38, No.3, pp.595-613.

Williamson, O. E., 1999. 'Strategy research: governance and competence perspectives.' Strategic Management Journal. Vol. 20, Issue 12, pp.1087-1108.

Williamson, O. E., 1998. 'Transaction Cost Economics: How It Works; Where It Is Headed.' De Economist. Vol. 146, No.1, pp. 23-58.

Williamson, O. E., 1993a. 'Calculativeness, Trust and Economic Organization.' Journal of Law and Economics, Vol. 36, No.1, pp.453 – 486.

Williamson, O. E., 1993b. 'The Economic Analysis of Institutions and Organisations - in General and with Respect to Country Studies.' OECD Economics Department Working Papers. No. 133. OECD Publishing. Available at: http://dx.doi.org/10.1787/802045548530

Williamson, O. E., 1991. 'Economic Institutions: Spontaneous and Intentional Governance.' Journal of Law, Economics and Organization. Vol.7, Special issue, pp.159-87

Williamson, O.E., 1985. *The Economic Institutions of Capitalism: firms, markets, relational contracting*. New York: The Free Press.

Williamson, O.E., 1981. 'The Economics of Organizations: The Transaction Cost Approach.' The American Journal of Sociology. Vol 87, No.3, pp. 548-577.

Williamson, O.E., 1979. 'Transaction-Cost Economics: The Governance of Contractual Relations.' Journal of Law and Economics. Vol. 22, No.2, pp. 233-261.

Wilson, N.O., 2007. 'Pineapple Exports from Ghana to Europe: Industry Sustainability and Prospects for a Niche Organic Market.' Published Master's Thesis, Dalhousie University

Witzel, M., 2005. *The Encyclopedia of the History of American Management*. Bristol: Thoemmes Continuum.

Wood, A., 1997. 'Openness and Wage Inequality in Developing Countries: The Latin American Challenge to East Asian Conventional Wisdom.' The World Bank Economic Review, Vol. 11, No.1, pp. 33-57.

Woodend, J.J., 2003. 'Potential of Contract Farming as a Mechanism for the Commercialisation of Smallholder Agriculture: The Zimbabwe Case Study.' Report Prepared for the Food and Agriculture Organisation (FAO).

World Bank, 2011a. 'Horticulture exports from Ghana: A Strategic Study.' The World Bank Joint Departmental Discussion Paper, Agriculture and Rural Development and Africa Region, Issue 2

World Bank, 2011b. *Weather Index Insurance for Agriculture: Guidance for Development Practitioners*. Agriculture and Rural Development Discussion Paper 50. Washington DC: World Bank.

World Bank, 2008. *Ghana - Second Agriculture SWAP (AGSSP II)*. Washington, DC: World Bank. Available at: http://documents.worldbank.org/curated/en/2008/05/9435781/ghana-second-agriculture-swap-agssp-ii

World Bank, 2001a. 'Ghana International Competitiveness: Opportunities and Challenges Facing Non-Traditional Exports.' Report No. 22421-CH

World Bank, 2001b. Performance Audit Reports and Sectoral Overview: Ghana.' The World Bank, Sector and Thematic Studies Group, Operations Evaluation Department, Report No. 22439

World Bank, 1993. *The East Asian Miracle: Economic Growth and Public Policy*. Oxford: Oxford University Press.

World Bank, 1990. 'Agricultural Diversification Project.' The World Bank, Agriculture Operations Division, Africa Country Department IV. Available at: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/1990/09/05/000009265_3960929021009/Rendered/PDF/multi_page.pdf

World Bank, 1984. *Ghana. Policies and Program for Adjustment*. A World Bank Country Study. The World Bank, Washington, DC.

World Bank, 1982. *World Development Report*. USA: Oxford University Press

World Economic Forum (WEF), 2012. *The Shifting Geography of Global Value Chains: Implications for Developing Countries and Trade Policy*. Global Agenda Council on the Global Trade System.

World Trade Organization (WTO), 2014. 'World Trade Report 2014: Trade and development, recent trends and the role of the WTO.' Geneva: WTO.

World Trade Organization (WTO), 2004. 'World Trade Report 2004'. Geneva: World Trade Organization.

Yeboah, G., 2005. 'The Farmapine Model: A Cooperative Marketing Strategy and a Market-Based Development Approach in Sub-Saharan Africa.' Choices. Vol. 20, Issue 1, First Quarter 2005.

Yeung, H.W-C., 2005. 'Rethinking relational economic geography.' Transactions of the Institute of British Geographers. Vol. 30, Issue 1, pp. 37-51.

Yin, R. K., 2009. *Case study research: Design and methods*. 4th edition. London, UK: Sage Publications Ltd.

Zenger, T.R., Lazzarini, S.G., and Poppo, L., 2002. 'Informal and Formal Organization in New Institutional Economics.' In: P. Ingram and B. S. Silverman (eds.) *The New Institutionalism in Strategic Management.* Oxford, UK: Elsevier Science Limited. pp.277 – 305.

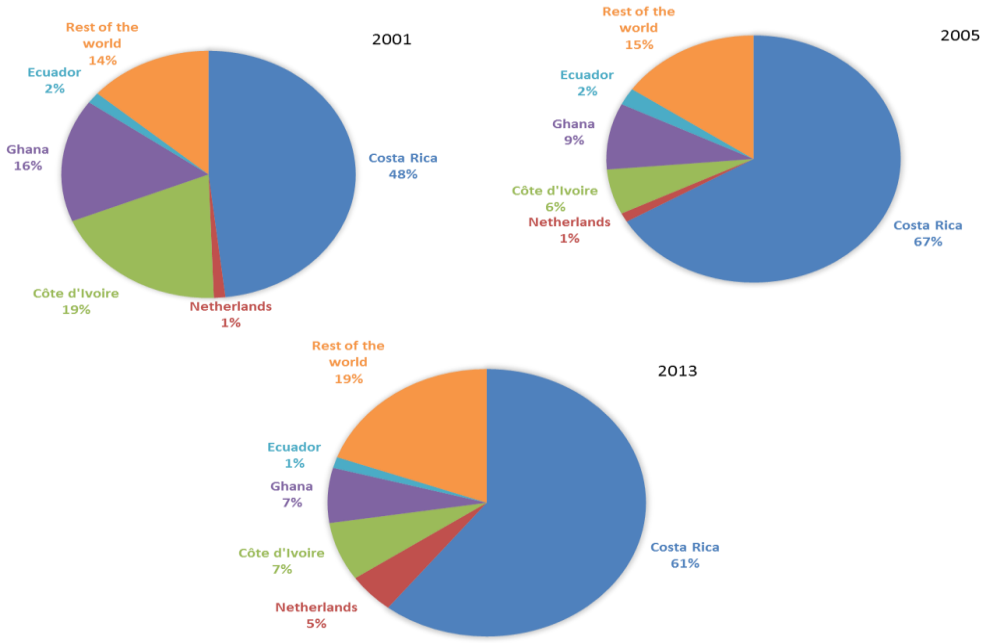
Zimmerling, R., 2003. 'Globalization and Democracy: A Framework for Discussion.' Paper prepared for the annual meeting of The Tampere Club held in Tampere/Finland. Available at: http://www.tampereclub.org/e-publications/5Zimmerling.pdf.

Zinnah, H., 2000. 'Supply and Cost functions of pineapple exports during Ghana's Structural Adjustment period in the pineapple producing areas of Greater Accra and Eastern regions.' Master's Thesis. University of Ghana.

Appendix

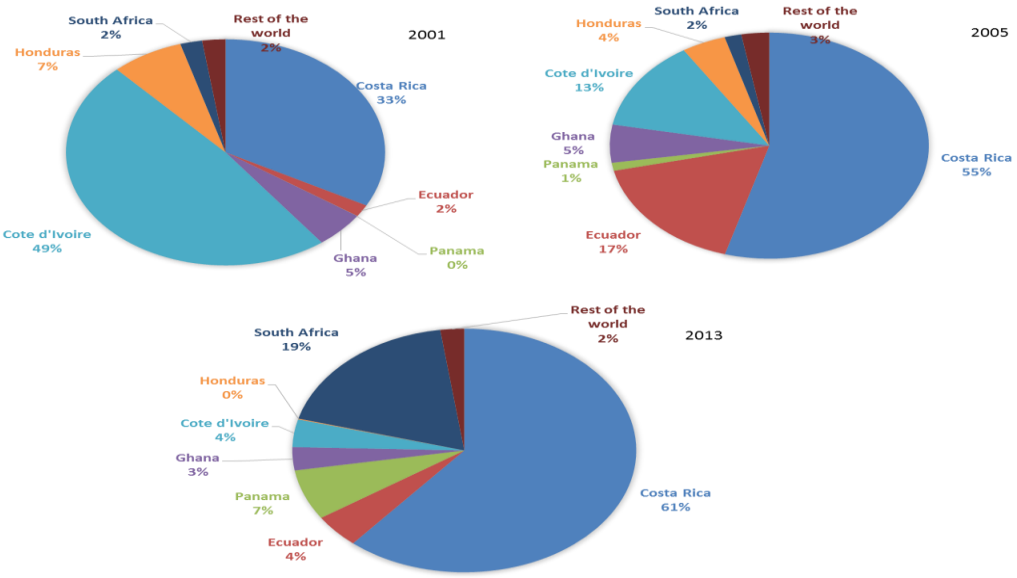
Appendix Chapter 4

Appendix 4.1: Supply markets for Belgium imports of pineapple (2001, 2005 and 2013)



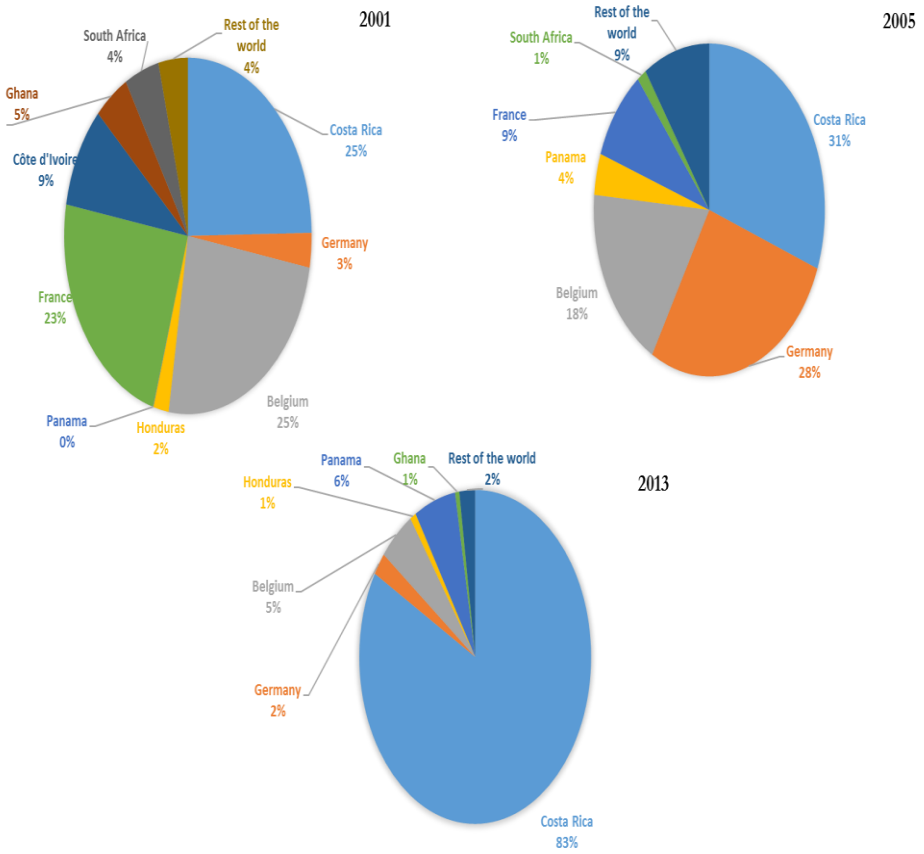
Source: Trade Map, International Trade Centre www.intracen.org/marketanalysis

Appendix 4.2: Supply markets for Germany imports of pineapple (2001, 2005 and 2013)



Source: Trade Map, International Trade Centre www.intracen.org/marketanalysis

Appendix 4.3: Supply markets for the Netherlands imports of pineapple (2001, 2005 and 2013)



Source: Trade Map, International Trade Centre www.intracen.org/marketanalysis

Appendix Chapter 5

Appendix 5.1 Introduction Letter

Note: The researcher was officially known by her maiden name at the time of fieldwork.

Faculty of Law & Social Sciences

SOAS
University of London

School of Oriental and African Studies
Thornhaugh Street
Russell Square
London WC1H 0XG

Phone +44 (0) 20 7637 2388
Web www.soas.ac.uk

14 May 2013

To Whom It May Concern

Dear Sir/Madam,

LETTER OF INTRODUCTION – Ms Nana Amma Afari-Gyan

Nana Amma Afari-Gyan is a 2nd year PhD student in the Department of Economics, School of Oriental and African Studies (SOAS), University of London. Her research area is decision-making at the domestic level in Global Value Chains (GVCs). The project will cover knowledge acquisition and transfer, risk, role of the state and collective action organisations, individual/collective behaviour and institutional dynamics.

As part of her fieldwork, we would like to conduct interview-based case studies and focus group discussions with pineapple producers (e.g. outgrowers schemes, farmer cooperatives, medium and large scale farmers), exporters, collective action organisations (e.g. Sea-freight pineapple exporters of Ghana), government agencies (e.g. Ghana Export Promotion Council, Horticulture Development Unit) and donor agencies (e.g. USAID).

Participation in the fieldwork will be highly confidential. Results will be published on a 'no-name basis' and as aggregate and average findings as part of her PhD thesis and related papers. The thesis and its fieldwork are being supervised by Professor Nissanke, a specialist in institutional economics and are subject to the research guidelines and ethical standards of the University of London.

During her fieldwork, Ms Afari-Gyan can be contacted on +233244720617. Please find attached key topics and questions for fieldwork interviews and focus group discussions.

We would be grateful if you could provide her with the necessary assistance to conduct her fieldwork.

Thank you.

Yours sincerely,

Prof. Machiko Nissanke
(Supervisor)

Vernon Square Campus
visiting address:
Vernon Square
Penton Rise
London WC1X 9EW

Appendix 5.2 Full list of Interviewees

Respondent	Position/Location/Organisation	Date interviewed
Industry expert 1	Donor organisation	First conversation on 07/06/13. Subsequent follow up conversations
Industry expert 2	Agribusiness consultant	First interviewed on 13/06/13. Subsequent follow up conversations
Processor A	Production Manager	04/07/13
Processor A	Quality Control Manager	04/07/13
Processor A	Agronomist	Informal conversations
Representative of Exporter Association	Senior Official	11/07/13
Medium-scale farmer A	Akwapim South district	15/07/13
Medium-scale farmer B	Akwapim South district	15/07/13
Medium-scale farmer C	Akwapim South district	15/07/13
Farmer Cooperative A (8 members)	Akwapim South district	16/07/13
Medium-scale farmer D	Akwapim South district	16/07/13
Medium-scale farmer E	Akwapim South district	16/07/13
Medium-scale farmer F	Akwapim South district	17/07/13
Small scale farmers (2)	Akwapim South district	17/07/13
Farmer Cooperative B (10 members)	Ekumfi District	26/07/13
Farmer Cooperative C (11 members)	Ekumfi district	26/07/13
Local processor	Akwapim South District	01/08/13
Farmer Cooperative D (10 members)	Ekumfi district	02/08/13
Commercial bank A	Assistant Manager, Central Region	02/08/13
Representative of MFI	Agriculture specialist	06/09/13
Representative of MFI association	Executive Secretary	09/09/13
Government Agency A	Head of Research	20/09/13
Exporter A	Agronomist	01/10/13
Exporter A	Export Manager	01/10/13
Exporter B	CEO	08/10/13
Exporter C	General Manager	29/10/13
Exporter D	CEO	07/11/13
Exporter E	Production Manager	14/11/13
Government Agency B	Finance Manager	19/11/13
Representative of Commercial Bank B	Accra	Email exchange

Representative of Commercial Bank C	Accra	Email exchange
Industry expert 3	National Horticulture Task force	20/06/16
Importer	Netherlands	29/08/16

Appendix 5.3 Interview Consent form

Acknowledgement of Informed Consent for the project:

"Emerging labour relations and institutions under globalisation: A case study of Ghana" (Working Title)

My name is Nana Amma Afari-Gyan and I am a graduate student at the School of Oriental and African Studies (SOAS), University of London. I am inviting you to participate in my study on institutions and governance in the pineapple subsector in Ghana. Involvement in this research is voluntary so you may choose to participate or not. This sheet will explain the study to you. I will be happy to answer any questions that you may have.

This study is attempting to gain a better understanding of the relationship between governance structures and the institutional environment in domestic value chains. The project will cover knowledge acquisition and transfer, risk, role of the state and collective action organisations, individual/collective behaviour and institutional dynamics. Should you choose to participate in this study, it will involve answering some questions that relate to your work in the pineapple subsector. I expect that the interview will last between forty-five to sixty minutes. This interview will also be audio-taped and the recordings used only for transcription and documentation purposes. Please keep in mind that the information you provide will not be linked to you in any way.

A copy of this written consent form will be given to each participant in this study. All audio-taped recordings will be erased and written transcripts destroyed upon completion of this study. If at any point you feel uncomfortable with an aspect of this interview, we can either stop that particular line of questioning or we can stop the interview all together. In the event that you stop the interview all together, none of the information given will be used in the study.

If you have any questions about this research project as a participant, please contact this project's advisor, Prof. Machiko Nissanke, by phone at +44(0)20 7898 4542 or by email at mn2@soas.ac.uk.

All of my questions have been answered. I acknowledge that I am over the age of eighteen years and agree to participate in this study.

_____ I agree to be audio-taped

_____ I do not agree to be audio-taped

_____	_____	_____
(Signature of participant)	(Name of participant)	(Date)

_____	_____	_____
(Signature of researcher)	(Name of researcher)	(Date)

Appendix 5.4

Appendix 5.4.1 Questionnaire for small and medium-scale producers

EMERGING LABOUR RELATIONS AND INSTITUTIONS UNDER GLOBALISATION: A CASE STUDY OF GHANA (Working Title)

By

NANA AMMA AFARI-GYAN
PhD Candidate
Economics Department

School of Oriental and African Studies (SOAS), University of London

This questionnaire is designed to collect data for the purposes of analyses of decision-making at the domestic level in Global Value Chains (GVCs). The project will cover knowledge acquisition and transfer, risk, role of the state and collective action organisations, individual/collective behaviour and institutional dynamics. All responses will be treated as confidential. Results will be published on a 'no-name basis' and as aggregate and average findings as part of a PhD thesis and related papers.

Supervisor:

Prof. Machiko Nissanke

Section 1: Background Information

1. Name

……

2. Sex

M ☐

F ☐

3. Age

18 - 25 ☐

26 –35 ☐

36 - 45 ☐

46 - 55 ☐

56 and above ☐

4. What is your highest education level?

Primary ☐

Secondary ☐

Technical ☐

Polytechnic ☐

University ☐

5. (a) Are you native to this locality? Y/N

(b) If no to (a), are you a migrant? Y/N

(c) Are you married/single/ divorced/separated?

(d) Number of children: ……..

6. (a) Do you own any plot(s) of land? Y/N

(b) Do you control any plot(s) of land? Y/N

(c) Details about plots owned/controlled:

a. **Plot Number**	**b. Size**	c. **State** i. Fallow ii. Cultivated iii Other	**d. Owner** i. Self ii. Parent iii. Spouse iv. Uncle/Aunt v. Sibling vi. Cousin vii. Cooperative viii. Exporter ix. Other (please specify)	e. **Mode of Ownership** i. Purchase ii. Inheritance iii. Marriage Other (please specify)

7. If respondent owns or controls more than one plot

a. Plot Number	b. Who is using the plot now?	c. What type of arrangement do you have? i. Rental ii Other	d. Rental contract i. Cash ii. Abusa iii.Abunu Other	e. What crop is grown on the plot?	f. Do you receive a portion of the crop grown on the plot as rent? Y/N	g. What portion is received as rent?

8. (a) Do you have another job aside farming? Y /N

(b) What job is this? ……..……

9. Pineapple production:

a. How long have you been into pineapple farming? (in years)	b. What variety of pineapple do you grow? i. MD2 ii. Smooth Cayenne iii. Sugar Loaf iv. Other	c. How long have you been cultivating this variety?	d. How many acres of this variety do you grow?	e. Do you produce for export? i. Yes ii No	f. Which export market? i. Organic ii. Conventional

10. (a) Are you a member of a pineapple cooperative/outgrower scheme? Y/N
Name (if yes): …….

(b) How long have you been a member? (in years) …….

(c) If no to (a) Why are you not a member and would you like to join one if the opportunity arises?

……

……

SECTION 2: (a) CONTRACTING

11. (a) In the past three months, have you promised (oral/written) to sell your pineapple to anyone? Y/N

(b) Who did you promise? ……

(c) Who will you sell it to? Cooperative ☐ Exporter ☐ Market Queen ☐

Other (please specify) …… …….

12. Who introduced you to the buyer (contractor)?

Cooperative ☐ Friends ☐ Donor Agency ☐ Financial Institution ☐

Family ☐

Other (please specify) .....

13. What are the main things usually agreed upon in the written/oral contract?

Contract duration ☐ Conditions for termination of contract ☐ Input Provision ☐

Payment method ☐ Time for payment ☐ Risk sharing ☐ Spraying ☐

Quantity ☐ Terms of input provision ☐ Transportation ☐ Technical qualities of crop ☐ Price ☐ Finance ☐

Other (please specify): .....

14. What are the some of the specific details of the agreement reached in question 13 above?

(a) Inputs (which ones?)

……

(b) Contract duration and termination:

……

(c) Services (transportation, spraying):

……

(d) Risk sharing:

……

(e) Price:

……

(f) Other:

……

15. What are the main requirements of buyers when looking for producers?

……

16. (a) Why do you choose to produce under contract (written/oral)?

……

……

……

(b) Would you still produce pineapples if there was no contract (written/oral) available? Please explain?

……
……
……

17. (a) Is it easier to access the market this way? Y /N

(b)What are the advantages/disadvantages of how you access the market?
……
……
…….

18. If you need knowledge on the following, who do you usually ask first?

	Contracting Opportunities	**Production Processes**	**Finance**	**Pricing**	**Marketing**	**Distribution**
Farmer cooperative						
Friends						
Family						
Extension officers						
Exporter						
Financial institution						
Donor agency						
Other (please specify						

19. (a) How is the knowledge passed on to you?

	Contracting Opportunities	**Production Processes**	**Finance**	**Pricing**	**Marketing**	**Distribution**
Cooperative Meetings						
Training manuals						
Handouts						
Posters						
Contract agreement						
Other (please specify)]						

(b) Is the knowledge passed on useful to you?

	Contracting Opportunities	**Production Processes**	**Finance**	**Pricing**	**Marketing**	**Distribution**
Yes						
No						

20. What are some of the practices involved in getting the information? Are these interactions continuous or a one-off? (1. continuous 2. discrete)

(a) Contracting opportunities:
……
……

(b) Marketing:
……
……

(c) Distribution:
……
……

(d)Production Processes:
……
……

(e)Pricing: ……
……

(f)Finance:
……
……

21. (a) Would you be able to access this information if you were not cultivating pineapple? Y/N

(b) Would you be able to access this information if you had no social relations with the informants? Y/N

(c) Which of the interactions in question 20 above is most important to you and why? [a, b, c, d, e, f]
……
……

(d) Is this how you expect to get the information and why? Y/N
……
……
……

22. (a) Are you able to influence the process of knowledge acquisition? Y/N

(b) Are you able to influence the process of knowledge transfer? Y/N

(c)How are you able to do so?

Knowledge acquisition: ……
……

Knowledge transfer:……..
……..

(d) Why are you not able to do so?
……

……

23. What do you think are the challenges/advantages of acquiring knowledge and information the way you do?

……..
……..
……..

24. (a) How fast is the information transferred to you?

(i) Contracting opportunities:	Very slow	1	2	3	4	5 Very fast
(ii) Marketing:	Very slow	1	2	3	4	5 Very fast
(iii) Distribution:	Very slow	1	2	3	4	5 Very fast
(iv) Production Processes:	Very slow	1	2	3	4	5 Very fast
(v) Pricing:	Very slow	1	2	3	4	5 Very fast
(vi) Finance:	Very slow	1	2	3	4	5 Very fast

(b) How timely is the information for you?

(i) Contracting opportunities:	Not on time at all 1	2	3	4	5 Very timely
(ii) Marketing:	Not on time at all 1	2	3	4	5 Very timely
(iii) Distribution:	Not on time at all 1	2	3	4	5 Very timely
(iv) Production Processes:	Not on time at all 1	2	3	4	5 Very timely
(v) Pricing:	Not on time at all 1	2	3	4	5 Very timely
(vi) Finance:	Not on time at all 1	2	3	4	5 Very timely

(c) How reliable is the information?

(i) Contracting opportunities:	Not at all reliable 1	2	3	4	5 Very reliable
(ii) Marketing:	Not at all reliable 1	2	3	4	5 Very reliable
(iii) Distribution:	Not at all reliable 1	2	3	4	5 Very reliable
(iv)Production Processes:	Not at all reliable 1	2	3	4	5 Very reliable
(v) Pricing:	Not at all reliable 1	2	3	4	5 Very reliable
(vi) Finance:	Not at all reliable 1	2	3	4	5 Very reliable

25. What improvements in your production have resulted from the knowledge you receive?

……
……
……

26. (a) Is the knowledge and information regarding product and process requirements

applicable to any other crops? Y/N/Not Sure

(b)Which ones? .....

(c) If yes, how is it applicable? .....

.....

(e) If no, why is it not applicable? .....

27. (a) Are you able to switch from one buyer to the other? Y/N

(b) How often are you able to do so? .....

(c) What factors motivate you to switch or stay with any particular buyer? *(In order of importance)*

.....

.....

.....

28. Are there other thoughts, comments, concerns?

……

……

(b) FINANCING

29. (a) Do you buy any inputs for your pineapple production? Y/ N

(b) What are the specific costs of inputs per hectare?

Item	Type	Hectare of land	Amount per hectare	Cost (GHC)
Suckers				
Fertiliser				
Pesticides				
Plastic Mulch				
Other				

30. What type of financing options do you use?

a. Own finances ☐ b. Loan from commercial bank ☐ c. Loan from money lenders ☐

d. Loan from family ☐ e. Loan from micro-finance institutions ☐ f. Loan from susu group ☐ g. Loan from friends' ☐ h. Interested in financing but no access to funds ☐

If you borrow from any source, please answer questions 31-34. If no loan, please go to question 35

31.(a) Loan details:

Source	**Amount (GHC)**	**Interest Rate (%)**	**Payback period (in years)**	**Type of collateral needed**
Family/Friends				
Commercial bank				

Microfinance institution				
Susu group				
Other				

(b) Do you know if other smallholders face the same conditions when accessing finance?
……
……

32. Have there been experiences with rescheduling or default? If so, when and why
……
……
……

33. (a) Which factor(s) will make it easier for you to access a loan?
Larger plot of land ☐ Access to export market ☐ Stable income ☐
Pineapple variety ☐
Terms of loan repayment ☐ Membership of a cooperative/outgrower ☐
Other (please specify)
……

(b) Which factor(s) will hinder you from taking a loan?
Size of land ☐ Lack of employment outside farming ☐ Income stability ☐
Terms of loan repayment Non-membership of a cooperative/outgrower ☐
Other (please specify): ……..

34. (a) Is the loan taken able to meet the needs of your production/ Y/N
(b) Please explain how it is able/not able to do so: .....
.....

35. What are the advantages/disadvantages of financing production the way you do?
Advantages:
……
……
Disadvantages:
……
……
……

36. (a) What improvements have you been able to make to your farm in the last year?
……
……
……

(b) Are these improvements partly a result of how you finance your production? Y/N
……
……

(c) Have you had to forgo something you wanted to do on the farm/with pineapple

production because of the way you access finance? Please explain your answer

……
……
……

37. In your opinion, is there anything that can be done by anyone to make access to finance better and why?

Yourself:

……
……

Others:

……
……

(c) YIELD

38. (a) What is your usual yield per hectare? …….

(b) How consistent are your yields per hectare? ..…….

(c) Has the yield increased over the last season? ……

…….....

(d) Are you able to credibly forecast the amount of pineapple you will harvest in a season? Y/N

(e) Is your farm irrigated and why? Y/N ……

(f) What are the challenges with yield and/or forecasting volumes?

……
……

(g) What happens if your yields/volumes are not up to expectation?

……
……
……

(d)PRICING

39. (a) How much were you paid for a kilogram of pineapple last season? ……

……..

(b) How much are you going to be paid this season? …….

……..

(c) Is the price agreed on before cultivation begins? Y/N

(d) Is it an oral/written agreement? ……

40. (a) How do you agree on the price?

(i) Who is involved?

……
……

(ii) Process:

……

……

41. (a) Is the price set to pay a premium for quality or buy all produce available?

……

(b)Is the price you receive from an exporter, higher than what you will receive from selling to the domestic market? Y /N

(c) Why is this?.....

42. (a) How and when are payments made for pineapple cultivated? Cash ☐ Cheque ☐ At harvest time ☐ 2 weeks after delivery ☐ Other (please specify) ……

……

(b) Does the mode and timing of payment affect your ability to finance loans?

……

43. (a) In your opinion, is the price a fair reflection of what you should receive? Y/ N

(b) Why? ……

(c) Who in your opinion is the most influential stakeholder in this process?

……

……

(d) Why do you say so?

.....

.....

44. (a) In your opinion, is the most influential stakeholder able to convince other stakeholders for its own benefit? Y/N

(b) Who are these other stakeholders?

……

(c) Are you as an individual/ group able to influence any of the influential stakeholders? Y/N

(d) If yes, how are you able to do so?

……

……

(e) If no, why are you not able to do so?

……

……

45. (a) Does the volume of pineapple produced by other smallholders affect the price agreed upon? Yes/No/ Not Sure/ Don't Know

(b) Does price increase/decrease of fertiliser, suckers, affect the price agreed upon? Yes/No/ Not Sure/ Don't Know

(c) Does weather conditions and disease affect the price agreed upon? Yes/No/ Not Sure/ Don't Know

(d) Does yield affect the price you receive? Yes/No/Not Sure/Don't Know

(e) Does government trade policy affect the price agreed upon? Yes/No/ Not Sure/ Don't Know

46. If yes to question 44, how does it affect the price?

……
……
……
……

(e) CONFLICT RESOLUTION

47. (a) Have you ever had a dispute with a buyer? Y/N

(b) What was the dispute over?

……
……

48. (a) Was the dispute due to you? Y/N

(b) If yes, why were you unable to fulfil your part of the contract?

(i) Inability to deliver the quantity agreed in the contract?

(ii) Sale of produce to another buyer

(iii) Diversion of inputs to other crops

(iv) Other:

……
……
……

(c) What happens /happened when you are/were unable to fulfil your part of the contract?

	Inability to deliver the quantity agreed in the contract	Sale of produce to another buyer	Diversion of inputs to other crops	Other (please specify)
Nothing will happen				
Buyer will demand payment for inputs and services supplied				
Rely on				

personal contacts to intervene				
The cooperative will intervene				
Buyers of other crops will get to know about it				
My reputation will be affected				
Other (please specify)]				

(d) Is this the usual manner in which you settle such a dispute with the buyer and why? Y/N

……

……

(e)Is this is what happens with other smallholders when they default and why?

……

……

……

(f) Has this happened to someone you know/the cooperative told you/buyer told you/it is in the contract?

……

……

49. What happens if the buyer does not fulfil his part of the contract?

	Does not pay the agreed price	**Does not buy the agreed quantity**	**Does not provide the agreed inputs**	**Other (please specify**
Nothing will happen, we are used to it				
The crop will be sold on the domestic market				
The crop will be sold to another buyer				

Negotiate with the buyer based on the terms of contract				
We never contract with the buyer again				
A complaint will be lodged with the producer association				
Other (please specify)				

50. (a) Is this how buyers usually settle disputes and why? Y/N

……
……

(b) Would you prefer another practice to the one currently used and why? Y/N

……
…….

(c) What do you believe are the advantages/disadvantages of the dispute mechanisms identified above?

Advantages:

……
……
……

Disadvantages:

……
……
……

(d) What factor(s) or circumstance(s) enable/force you to use this practice to settle disputes?

……
……
……
……

51. (a) Did the cooperative/farmer association assist in solving the dispute? Y/N

(b) What role did the cooperative/farmer association play in the dispute?

……

……

(c) In your opinion, did they intervene in a timely manner? Y/N

(d) Was this role satisfactory? Y/N

……

(f)Risk and Risk Sharing

52. (a) Do you grow any food crops (e.g. maize) for sale? Y/N

……

(b)If yes to (a), how much income do you earn from it?

(c) Compared with pineapple farming, how much more do you earn?

(d) If no to (a), why do you not grow any food crop?

……

……

……

(e) Does pineapple farming provide you with a better livelihood than growing food crops and how? Y/N

……

……

……

53. (a) Do you view pineapple production as risky or stable? Why?

……

……

(b) What are the risk factors? *(Please list in order of importance to you)*

.....

.....

(c) How do you manage the risk? Through:

(i) Use of irrigation systems
(ii) Marketing through GPS
(iii) Crop insurance
(iv) Price setting in advance
(v) Access to credit (ex-post)
(vi) Investments to improve consistency of quality, handling and grading
(vii) Remittances
(viii) Diversification into other crops. Which ones?

……..

(d) If stable, what are the factors that make it so? *(Please list in order of importance to you)*

……

……

54. (a) Have you been offered a contract (by the same buyer/another) to produce any other export crop? Y/N

Name of crop: .....

(b) Did you accept and why?

……

……

(c) How volatile/stable is the price/income/yield of this other crop?

.....

.....

……

(d)Do you diversify into food crop production and why? Y/N

……

……

55. (a) What are the challenges of managing risks through the options used?
(E.g. increase in labour used whether own or casual/migrant and under what conditions?)

……

……

(b) Does diversifying into other crops affect your ability to specialise in the production of pineapple?
Y/N

(c) Please explain exactly what happens ……

……

56. Are there other thoughts, comments, concerns?

……

……

(g) Role of the state and collective action organisations

57. (a) Does your cooperative have support from any public or private organisation?
Y/N/Not Sure

(b) If yes, is the partnership successful? Y/N

(c) Why do you say it has been successful or not? ……

…….

58. Does your cooperative have the ability (e.g. contacts, skilled personnel) to access knowledge and information on production processes, markets and inputs? Y/N

(b) Please explain your answer:

……

……

(c) Does your cooperative have the ability (e.g. contacts, skilled personnel) to influence buyer's decisions? Y/N

(d) Please explain your answer:

……
……

(d) Is your cooperative able to join together with other cooperatives to push for changes in the sector? Y/N

(f)Please explain your answer:

……
……

(g)Are you as an individual able to freely communicate your needs to the cooperative? Y/N

(h) Please explain your answer: ……
……

59. (a) Are you a member of the Agriculture Workers Union of Ghana? Y/N

(b) Is the union able to influence the decisions of buyers (contractors) regarding prices, inputs? Y/N

(c) Please explain your answer:

……
……

(d) Is the union able to influence the government in its policy towards the sector? Y/N

(e) Please explain your answer:

……
……

(f)Do you know about the Economic Partnership Agreement to be signed next year? Y/N

(g) If yes, what do you know about it?

……
……

(b) How will it affect you as a pineapple grower? ……
……

60. To what extent have you learned from your cooperative:

(a)	New forms of production:	Little	1	2	3	4	5 A lot
(b)	Knowledge about increasing yields:	Little	1	2	3	4	5 A lot
(c)	Knowledge about marketing your product:	Little	1	2	3	4	5 A lot
(d)	Managerial techniques:	Little	1	2	3	4	5 A lot
(e)	Knowledge on better application of	Little	1	2	3	4	5 A lot
(f)	fertilisers, pesticides						
(g)	Post-harvest techniques	Little	1	2	3	4	5 A lot

61. To what extent have you learned from government extension services:

(a)	New forms of production:	Little	1	2	3	4	5 A lot
(b)	Knowledge about increasing yields:	Little	1	2	3	4	5 A lot
(c)	Knowledge on better application of Fertilisers, pesticides	Little	1	2	3	4	5 A lot
(d)	Post-harvest techniques	Little	1	2	3	4	5 A lot

Expectations

62. (a) Has your buyer increased the amount of produce demanded from you since the last season? Y/N
(b) If no, why do you think so? ……

63. (a) If yes, have you been able to meet the increased demand? *(please tick as many as apply)*

(i) Increased knowledge on product and process quality
(ii) Increased volumes through cultivating more plots
(iii) Increased volumes through higher yields per hectare
(iv) Use of fertilisers, pesticides, tractors, irrigation system etc.
(v) Rescheduling of tasks and responsibilities of employees
(vi) Increase in formal education (employees & employers)
(vii) Increased extension services
(viii) Trial and error
(ix) Other (please specify):
……

(b) Please explain exactly how you have gone about it?
(i) Increased knowledge on product and process quality
……
(ii) Increased volumes through cultivating larger plots
……

(iii) Increased volumes through higher yields per hectare
……
(iv) Increased volumes through better application of knowledge
……

(v) Better use of fertilisers, pesticides, tractors, irrigation systems etc.

……
(v) Rescheduling of tasks and responsibilities of employees
……
……
(vi) Increase in formal education (employees & employers)
……
……
(vii) Increased extension services
……
……
(viii) Other (please specify):
……

64. (a) From your experiences shared above, what are your expectations for the sector?
.....
.....

(b) Are you encouraged to continue in the sector? Y/N

(c) Why?

……

……

……

(e) Who gains the most from how things are now?

……

(d) If no, what can be done to make you stay?

What:

…….

Who initiates:

……

Who carry's through:

……

(e)If yes, what can be done to improve upon your stay?

What:

……

Who initiates:

……

Who carry's it through:

…….

65. (a) From your experiences shared above, are you encouraged to increase the quantity of produce? Y/N

(b) Why?

……

……

……

(c) If no, what can be done to make you increase quantity produced?

……

……

……

(d)If yes, what can be done to improve upon your ability to increase production?

……

……

……

66. (a) From your experiences shared above, are you encouraged to improve the quality of produce? Y/N

67. (a) What in your opinion can be done by yourself, to improve upon your ability to meet demand?

……

……

(b) What factors/circumstances enable/hinder you from doing this?

……

……

……

68. (a) What in your opinion can be done by the buyer/government/cooperative/extension officers/others to help you meet demand?

……
……
……

(b) What factors/circumstances enable/hinder them from doing what you have said in (a) above?

……
……
……

69. What else can be done by other participants in the sector to enhance the development of the sector?

……
……
……

THANK YOU FOR YOUR TIME AND COOPERATION.

Appendix 5.4.2 Questionnaire for processors

EMERGING LABOUR RELATIONS AND INSTITUTIONS UNDER GLOBALISATION: A CASE STUDY OF GHANA (Working Title)

By

NANA AMMA AFARI-GYAN
PhD Candidate
Economics Department

School of Oriental and African Studies (SOAS), University of London

This questionnaire is designed to collect data for the purposes of analysing the contribution of the institutional setup to the governance structure of the pineapple value chain at the domestic level. The project will cover knowledge acquisition and transfer, risk, role of the state and collective action organisations, individual/collective behaviour and institutional dynamics. All responses will be treated as confidential. Results will be published on a 'no-name basis' and as aggregate and average findings as part of a PhD thesis and related papers.

Supervisor: Machiko Nissanke

FIRM ID:

Section 1: Background Information

(a) Personal Information

- Name:
- Gender:
- Age: 18 – 25☐ 26 – 35☐ 36 – 45 ☐ 46 – 55☐ 56 and above☐
- Profession
  …….
- Job Title
  ……..
- Highest school level attended?
  ……..
- How long have you worked in your current role?
  ……..

(b) Organisational Information

- What type of product is exported? (Whole fruit, cut fresh fruit, dried fruit, concentrate)
- How many hectares/acres of pineapple does the firm have? Where are they located? Which variety of pineapple is cultivated?
- What is the business organisation structure? (own farm, own farm and outgrower scheme, etc)
- Why does the firm adopt this business structure?
- Has the focus of the organisation changed over time and how?
- Which countries are your primary export destinations?
- What percentage of sales is exported? What percentage is sold on the domestic market?

Section 2: Contractual Relations

Quality Control:

- What are the main advantages of quality control in the internal market?
- Does the function of quality control by the firm reduce the level of risk faced by buyers?
- Who has responsibility in the case of quality failure?

- What is the buyer's role in the quality control function?
- Would a Ghana Cocobod –type system for quality control be feasible in the pineapple/horticulture industry?

Contractual Relations:

(a)Smallholders

- How has the change from Smooth Cayenne to MD2 affected the firm's provision of inputs to smallholders?
- In your opinion, how has the importance of input and extension services to smallholders changed over the years?
- What are the main challenges the firm faces in the provision of these services?
- What mechanisms are used to ensure non-default by smallholders?
- What level of participation do cooperatives/outgrower scheme members have in decision-making regarding contracting terms?
- Can you make investments into the cooperative/outgrower schemes, confident that the members will not default?
- Do you have to expend many resources in competing for supplies with other firms?
- Are there any social norms or conventions which must be observed when contracting?
- Do these social norms or conventions enable/hinder the contracting process?
- What happens /happened when a member of the cooperative/outgrower scheme is unable to fulfil his part of the contract?
-

- ***(b)Importer/buyer***
  - Do you use the same importer for the different pineapple products you export?
  - What are some of the conditions of terms reached in the contract with the importer/buyer? [Price/conditions of termination of contract, etc.]

(c)Input Supply

- Do you import inputs on your own?
- Which inputs are these?
- Which inputs are sourced from the domestic market and who is the supplier?

- What contractual relations does the firm have with the supplier?

(d)Pricing

Export prices

- How the export price of pineapple exported is decided?
- Is this how the process has always been?
- How has it changed over time?
- How does the export system of pricing benefit the firm?
- Does the export price of products have any relationship with the domestic price offered to outgrowers for produce?

Domestic Prices

- On the domestic market, is the outgrower group/cooperative involved in determining the price per kilogramme of pineapple?
- Who is the most influential stakeholder in the process?
- Is this stakeholder able to influence other stakeholders?
- Who are these stakeholders?
- How does the system of pricing benefit the smallholder?

Section 3: Linkages between Blue Skies and the international market

- In your opinion, what are the main sources of Ghana's competitiveness in the international market for pineapples?
- In your opinion, what are the main sources of Ghana's competitiveness in the international market for other fruits e.g. mango?
- How has the firm's relationship with international buyers changed since the move to MD2?
- How do you products enter their export destinations? (e.g. Importer, Retail agent, direct shipment to retailer)
- Are you satisfied with the distribution channel of your products?

(b)Marketing Opportunities:

- How do you currently acquire knowledge on marketing opportunities?
- Is this applicable to all the products you export? Y/N

- If No, what are the differences?
- Is this how you expect to access the information and why?
- Which factors enable /hinder you from acquiring marketing knowledge? (e.g. Organisational characteristics, business practices and routines, government policy, etc.)
- What are some of the advantages/disadvantages of using your current route?
- Which individual/organisation is the most influential stakeholder in the channel of sources
  for marketing information?
- Is this individual/organisation able to convince other stakeholders for its own benefit?
- Who are these other stakeholders?
- Are you as an individual/ group able to influence any of the influential stakeholders?
- If yes, how are you able to do so?
- If No, what in your opinion must be done to ensure you are able to do so?

(c)Competitiveness of the firm

- Has the firm being able to increase exports of products over the last two years?
- What is the percentage increase in volume/value?
- What kind of information (e.g. consumer preferences, branding) enables the firm to have an advantage its domestic and international competitors?
- How is this information accessed?
- Does the firm provide feedback to the source on the timeliness and usefulness of information?
- Which areas will you indicate as sources of delay/speed?
- Do employees provide feedback to management on the timeliness and usefulness of information?
- Which areas do employees indicate as sources of delay/speed?

- Please rate the following:

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
Having current market information is important	1	2	3	4	5	6	7
The firm undertakes its own market research to increase its competitiveness over domestic rivals	1	2	3	4	5	6	7
The firm undertakes its own market research to increase its competitiveness over international rivals	1	2	3	4	5	6	7

- How do you add value to your products to buyers in order to enhance your competitiveness?
- Have you tried mechanisms/methods which have failed in the last two years?
- Please give some examples of what you have tried.
- Where in your opinion, lies your firm's competitive advantage over other firms at the domestic level?
- Where in your opinion, lies your firm's competitive advantage over other firms at the

international level?

Trade-offs between competitiveness and smallholder inclusion:

- How is the firm able to manage the trade-off between lower production costs and inclusion of smallholders in the value chain?

Section 4: Incentives for Processing

- What are the main incentives to set up fruit processing facilities in Ghana?
- What has been the main motivation behind recent attempts to increase processing capacity in the country?
- Do you receive a premium on processed pineapple?
- How has improvements in sourcing (GlS tracking), transportation and ICT in supply chain affected the incentive to process pineapple?
- What role does the importance of traceability play in processing?
- With shortages of Smooth Cayenne affecting the processing ability of domestic firms, what can be done to improve upon the situation?
- What measures have you put in place to combat the problem?
- Is there an ideal balance between exporting and domestic processing?

Section 5: Linkages with other domestic stakeholders

- Is there an understanding on who has responsibility for sections of the market?
- Are the organisations responsible, able to carry out their functions?
- How have the changes in the structure in the international market impacted upon the different sections of the domestic value chain? [Methods of transporting, packaging, links with input suppliers, contracting]
- Has there been much improvement in the industry environment concerning:
    i. Transportation infrastructure
    ii. Information systems
    iii. Access to credit and inputs
    iv. Farmers attitudes to production
- What role do other stakeholders e.g. Ghana Export Promotion Council (GEPC) play in the firm's ability to market its products abroad?
- In your opinion, what is the contribution of exporter associations to the development

of the competitiveness of firms?

- In your opinion, what is the contribution of donor organisations and NGOs to the skills development of smallholders?
- To what extent is Blue Skies able to collaborate with other processors to influence government policy in the sector?
- What are the challenges faced in improving inter-firm relations?

Relationship with outgrower groups

- How would you describe your own company's relationship with cooperatives/outgrower schemes?
- How has this relationship developed over time?
- What examples can you give of how this confidence has been gained?
- What are the mechanisms of communication with outgrowers in terms of production processes, conflict resolution and negotiations?
- Does a change in leadership of the cooperative have a positive/negative impact on the relationship?

Section 6: Institutional Complementarities

- Are you able to identify other organisations in the political, social environment, who share the organisation's goals? Are you able to coordinate your goals with this organisation?
- If you are to list in order of importance, five (5) institutional arrangements which will complement the growth of the pineapple industry, what will they be?
- In what specific ways will they help the growth of the industry?
- As an organisation, have you been able to carry any of this out on your own?
- What factors/circumstances enable/hinder you from doing this?
- Have you tried mechanisms/methods which have failed in the last two years?
- Please give some examples of what you have tried and why you think they failed.

If you would like to receive a report of the project findings, please give the following details:

Name:

Telephone number:

Email address:

Thank you very much for your time and cooperation!

Appendix 5.4.3 Questionnaire for Collective action organisations

EMERGING LABOUR RELATIONS AND INSTITUTIONS UNDER GLOBALISATION: A CASE STUDY OF GHANA (Working Title)

By

NANA AMMA AFARI-GYAN
PhD Candidate
Economics Department

School of Oriental and African Studies (SOAS), University of London

QUESTIONNAIRE FOR COLLECTIVE ACTION ORGANISATIONS

This questionnaire is designed to collect data for the purposes of analysing the contribution of the institutional setup to the governance structure of the pineapple value chain at the domestic level. The project will cover knowledge acquisition and transfer, risk, role of the state and collective action organisations, individual/collective behaviour and institutional dynamics. All responses will be treated as confidential. Results will be published on a 'no-name basis' and as aggregate and average findings as part of a PhD thesis and related papers.

Supervisor:

Prof. Machiko Nissanke

Section 1: BACKGROUND INFORMATION

(b) Personal Information

- Name: .....
- Gender: M/F
- Age: 18 – 25☐ 26 – 35☐ 36 – 45☐ 46 – 55☐ 56 and above ☐
- Organisation:
  .....
- Profession:
  …….
- Job Title:
  ……
- Highest school level attended? Tertiary/Secondary
  …….
- How long have you worked in your current role?
  .....

Section 2: Function of the Organisation in the value chain

Question 1: In your opinion, how important is the role of your organisation to the functioning of the export market?

Question 2: What is the main incentive for exporters/producers to work together in an association? When and why did this develop?

Question 3: Does the organisation actively encourage entry into the pineapple subsector? On what basis is this done?

Question 4: What accounts for the declining number of exporters in the subsector?

- Though about 30 exporting firms are listed on the SPEG website, information shows that only about 8 of the firms are fully functional throughout the year.

Question 5: How do you ensure that the organisation does not contain inefficient members?

Question 6: Does the number of members in the organisation, impact on the organisation's efforts to develop the pineapple subsector in the country?

- What is the impact of a smaller/larger number?
- Is there an ideal number of members that will help the organisation function efficiently?

Question 7: Has there been a change in exporters' relationship with international buyers since the change to MD2? What are these changes?

Question 8: Why have pineapple exporters been unable to move into other fruit and vegetable value chains?

Section 3: Value Chain dynamics

(c) Quality Control

Question 1: At what stage of the chain do quality problems frequently occur?

Question 2: What are the key factors for maintaining consistency in quality of production?

Question 3: How does the organisation/firm ensure that quality standards are maintained?

Question 4: What mechanisms are used to communicate changes in quality requirements?

Question 5: On what basis does a buyer assess the quality of product exported?

Question 6: When produce is exported who bears responsibility in the case of quality failure? Producer/Exporter or Buyer or is it a shared responsibility?

- How has this changed over time?

Question 7: Where such a failure occurs, what is the process of investigation to find out why this happened?

- To what extent can you determine where the problem comes from?
- What kinds of information are required to do this?
- Is the exporter able to seek redress?

Question 8: The SPEG is trying to put in place an industry-wide quality control mechanism. What are the main advantages of having a uniform quality control mechanism for exporting firms?

- Will the SPEG quality control mechanism integrate the different stages of the chain required to maintain consistent levels of quality? E.g. input provision, transportation, pack houses, etc.
- How flexible is the mechanism being put in place, to quickly adapt to any changes?
- If there is quality failure for any produce, will the SPEG be the organisation held responsible when the industry-wide standard is enforced?

- What sanctioning mechanisms will be put in place when quality standards are not met?

(d) Input Supply

Question 1: Which firms are responsible for supplying inputs such as suckers and fertilizers?

Question 2: In your opinion, are the necessary inputs e.g. suckers, fertilizers for production of pineapple available in the country?

Question 3: Some smallholders complain about the unavailability of inputs e.g. fertilizers. What mechanisms can be used to ensure that inputs required are available?

- Do you consider the inputs available to be of acceptable quality?

Question 4: Has there been a change in farmers' attitudes towards the provision of inputs for production by exporters/processors?

Question 5: Do you consider side-selling by farmers to be a result of predatory buying prices by other firms?

Question 6: For firms who import their own inputs, what are the advantages and/or disadvantages?

- Is the importation due to their status as a Free Zone Company?

Question 7: In your opinion, is the local price of inputs e.g. fertilizers an obstacle to the production of quality pineapples for export?

Question 8: What do you think are the main constraints to exporters and/or processors becoming more involved in the provision of inputs to farmers?

(e) Extension services

Question 1: How important are extension services to the production of quality produce?

Question 2: Do the export firms provide this service to their outgrowers?

- Is it an outsourced service?

Question 3: Is there an active collaboration between organisations/departments responsible for input delivery and extension services?

- Examples of such collaboration

Question 4: To what extent does the government provide extension services for pineapple production?

- Is the government failing in its provision of service?

Question 5: In your opinion, will exporters or processors be a viable solution to farmer training in the future?

(f) Export prices and competition

Question 1: What is the procedure for fixing export prices of pineapple exported from Ghana?

- Has this process changed over time?

Question 2: Is there a uniform price paid for exports from Ghana or there is a level of competition among the exporters?

- What is the nature of this competition?

Question 3: What are the advantages of a fixed minimum guarantee price over the consignment pricing?

Question 4: Do buyers have an incentive to search among exporters for high quality when buying from the country?

Question 5: How have profit margins changed since the use of guarantee prices.

(g) Domestic Supply and Prices

Question 1: A number of exporters also sell their output to processors in the local market (but who produce for export), what is the process of determining the price per kilogramme of pineapple?

Question 2: Who is the most influential stakeholder in the process?

Question 3: Is this stakeholder able to influence other stakeholders? Who are these stakeholders?

Question 4: How does this pricing benefit the smallholder and/or exporter?

Question 5: What is the advantage of participating in both the export value chain and the domestic chain?

(h) Relationship with financial institutions

Question 1: What kinds of financial institutions are involved with the subsector?

Question 2: In your opinion, what are the main incentives for financial institutions to become involved in the pineapple industry?

Question 3: Are there a range of financial products available to support different sections of the value chain e.g. input supply, transportation and packaging?

Question 4: Are efforts by the government to provide funding for investment e.g. Export Development and Investment Levy (EDIF) in the sector enough?

Question 5: Is the SPEG able to influence the EDIF in its loan disbursements?

Question 6: What are the avenues available for existing exporters to source finance?

Question 7: What can be done by the government to improve upon funding to different sections of the value chain?

Question 8: How are exporters liaising with financial institutions to solve the problem of lack of finance?

(i) Incentives for Processing

Question 1: What are the main incentives to set up fruit processing facilities in Ghana?

Question 2: What has been the main motivation behind recent attempts to increase processing capacity in the country?

Question 3: How has improvements in sourcing (GlS tracking), transportation and ICT in supply chain affected the incentive to process pineapple?

Question 4: What role does the importance of traceability play in processing?

Question 5: With shortages of Smooth Cayenne affecting the processing ability of domestic firms, what can be done to improve upon the situation?

(j) Marketing Opportunities:

Question 1: How does the organisation currently acquire knowledge on marketing opportunities?

- Is this avenue reliable and timely?
-

Question 2: Which factors enable /hinder you from acquiring marketing knowledge? (e.g. Organisational characteristics, business practices and routines, government policy, etc.)

Question 3: Which individual/organisation is the most influential stakeholder in the channel of sources for marketing information?

- Is this individual/organisation able to convince other stakeholders for its own benefit?
- Who are these other stakeholders?
- Are you as an individual/ group able to influence any of the influential stakeholders?
- If yes, how are you able to do so?
- If No, what in your opinion must be done to ensure you are able to do so?

Question 5: How is the common marketing scheme proposed by SPEG going to influence demand for the sector's products?

- What are some of the advantages of operating under a common marketing brand?

Section 4: Linkages with other domestic stakeholders

Question 1: Is there an understanding on who has responsibility for different sections of the market?

Question 2: Are these organisations responsible, able to carry out their functions?

Question 3: How have the changes in the structure in the international market impacted upon the different sections of the domestic value chain? [Methods of transporting, packaging, links with input suppliers, contracting]

Question 4: In the last two years, has there been much improvement in the industry environment concerning

v. Transportation infrastructure
vi. Information systems
vii. Access to finance
viii. Access to inputs
ix. Consistent supply of pineapples
x. Farmers attitudes to production

Question 5: In your opinion, what is the contribution of this organisation to the development of the competitiveness of member firms?

Question 6: What role do other stakeholders e.g. Ghana Export Promotion Council (GEPC) play in exporters' ability to market products abroad?

Question 7: In your opinion, what is the contribution of donor organisations and NGOs to the skills development of smallholders?

Question 8: To what extent is this organisation able to participate in decision-making on policy?

- Collaborate with others to influence government policy in the sector?

Question 9: What are the challenges faced in improving inter-firm relations?

Section 5: Linkages with the international market

Question 1: Has the subsector being able to increase volume of exports over the last two years? Has this increase been as a result of increase in acreage or increase in yields or diversity of markets?

- How has improvements in sourcing (GlS tracking) and infrastructure impacted on the supply chain?

Question 2: In your opinion, what are the main sources of Ghana's competitiveness in the international market for pineapples?

Question 3: What processes have been upgraded to enable exporters increase their market shares?

Question 4: How easy/difficult is it for exporters to switch buyers?

- What are the factors affecting this?

Question 5: How does the price paid for pineapple exports from Ghana, compare with that from Cote d'Ivoire or Costa Rica?

- Is the produce from Costa Rica paid a premium? Why?

Question 6: What kinds of information (e.g. consumer preferences, branding) enables the firm to have an advantage its domestic and international competitors? How is this information accessed?

Question 7: How can this competitiveness be harnessed to increase export volumes and values?

Question 8: Do buyers provide exporters with any form of assistance in the production of pineapples?

- How reliable or timely are these forms of assistance?

Section 6: Knowledge acquisition and transfer

Question 1: In your opinion, does your organisation have the necessary technical and professional personnel to ensure an efficient acquisition and transfer of knowledge to the members of your organisation?

- Number of technically and professional personnel in the firm e.g. agronomists, marketers
- Level of education and training
- Number of years in the industry

Question 2: Knowledge interaction system

(a) What information/knowledge is usually shared in the cluster?

(b) If you urgently need information on international production standards, who from the list below do you turn to? On a scale of 1= least, 3 = medium and 5 = high, please rate the reliability, speed and importance of the knowledge to you.

Individual/Organisation		***Importance***	***Speed of knowledge transfer***	***Reliability of knowledge***
Own employees				
International Buyers				
Horticulture Association of Ghana (HAG)				
GEPC				
Bomarts				
Golden Exotics Ltd				
Koranco Ltd				

Combined Farms				
Bio-Exotica				
Jei-River				
Georgefields Farms				
Donor organisations e.g. USAID				
Horticulture Unit of MoFA				
International Agri-business Consultant(s)				
Domestic Agri-business consultant (s)				
Business Associations				
Other				

(c) Which of the following, in your opinion, has benefited from knowledge on international production standards provided from this organisation? Please indicate the importance, reliability and speed of the information you provided using the scale: 1 = least, 3 =medium, 5=high

Individual/Organisation		***Importance***	***Speed of knowledge transfer***	***Reliability of knowledge***
Own employees				
International buyers				
GEPC				
Bomarts				
Golden Exotics Ltd				
Koranco Ltd				
Combined Farms				
Bio-Exotica				
Jei-River				
Georgefields Farms				
Horticulture Unit of MoFA				
Donor organisations e.g. USAID				
Outgrowers				
Business Associations				
Other				

Question 4:

(a) Who/What organisation outside the cluster (e.g. research institutes, consultants) is a source of knowledge for the organisation for the following activities?

Activity	*Individual/Organisation (Please provide name)*				
Contracting with buyers					
Contracting with importers					
International production standards					
International demand forecasts					
International supply forecasts					
Branding					
Marketing opportunities					
Finance					
Domestic trade policy					
International trade policy					
Innovation					
Other					

(b) On a scale of 1-5, where 1 stands for 'no importance' and 5 for 'maximum importance' please rate the following, for the table above:

Individual/Organisation		***Importance***	***Speed of knowledge transfer***	***Reliability of knowledge***

(c) What practices (both formal and informal) must be adhered to? *(Please give examples)*

(d) Are the interactions continuous or discrete?

(e) Has this organisation collaborated with any of the organisations listed below for research into input quality, marketing, branding, innovation, in the last two years?

Individual/Organisation	Yes	No	Reason
GEPC			
HAG			
FAGE			
Bio Plantlets			
Ministry of Trade and Industry			
Other (Please specify)			

(d) Feedback on knowledge acquisition and transfer

Question 1: Does the organisation provide feedback to the source on the timeliness and usefulness of information?

Question 2: Which areas will you indicate as sources of delay/speed?

Question 3: Do employees provide feedback to management on the timeliness and usefulness of information?

Question 4: Which areas do employees indicate as sources of delay/speed?

- Please rate the following

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
Having current market information is important	1	2	3	4	5	6	7
The organisation undertakes its	1	2	3	4	5	6	7

own market research to increase its own competitiveness							

Section 6: Risk and governance of the value chain?

Question 1: (a) What kind of risk exists in the sector?

(b) Can it be passed to others in the sector?

Question 2: In your opinion, who or which organisation bears the greater part of the risk identified above?

Question 3: In your opinion, how is risk identified managed?

Question 4: (a) How is it transferred from one agent to another?

(b) How is it passed from one node of the value chain to another?

Question 5: What impact does the transfer of risk have on outsourcing relationships, consolidation of exporters and industry competitiveness?

Section 7: Institutional Complementarities

Question 1: Are you able to identify other organisations in the political, social environment, who share the organisation's goals? Are you able to coordinate your goals with this organisation?

Question 2: If you are to list in order of importance, five (5) institutional arrangements which will complement the growth of the pineapple industry, what will they be?
Question 3: In what specific ways will they help the growth of the industry?

Question 4: As an organisation, have you been able to carry any of this out on your own?

Question 5: What factors/circumstances enable/hinder you from doing this?

Question 6: Have you tried mechanisms/methods which have failed in the last two years?

Question 7: Please give some examples of what you have tried and why you think they failed.

Question 8: Based on the level of interactions in the sector, in your opinion, what is the outlook for the subsector in terms of export volumes, value, profitability, diversification and sustainability?

If you would like to receive a report of the project findings, please give the following details:

Name:

Telephone number:

Email address:

Thank you very much for your time and cooperation!

Appendix 5.4.4 Questionnaire for Exporting Firms

EMERGING LABOUR RELATIONS AND INSTITUTIONS UNDER GLOBALISATION: A CASE STUDY OF GHANA (Working Title)

By

NANA AMMA AFARI-GYAN
PhD Candidate
Economics Department

School of Oriental and African Studies (SOAS), University of London

QUESTIONNAIRE FOR EXPORTING FIRMS

This questionnaire is designed to collect data for the purposes of analysing the role of the institutional environment in the governance structure of the pineapple value chain at the domestic level. The project will cover knowledge acquisition and transfer, role of the state and collective action organisations, individual/collective behaviour and institutional dynamics. All responses will be treated as confidential. Results will be published on a 'no-name basis' and as aggregate and average findings as part of a PhD thesis and related papers.

Supervisor:

Prof. Machiko Nissanke

FIRM ID:

Section 1: Background Information

(k) Personal Information

- Name: .....
- Gender: M/F
- Age: 18 – 25 ☐ 26 – 35 ☐ 36 – 45 ☐ 46 – 55☐ 56 and above☐
- Firm/Company: .....
- Profession: ……
- Job Title ……
- How long have you worked in your current role? 1-5 years☐ 6-10 years☐ 10-15 years☐ Over 15 years ☐
- Email address /Telephone number: .....

Section 2: Organisation profile

1. (a) What type of product is exported? (Whole fruit, fresh cut fruit, dried fruit, concentrate)

(b)What is the ownership status of the firm? *(please tick)*

Sole Proprietorship	Limited Liability	Partnership	Joint Venture	Publicly listed company	Shareholding company with non-listed shares
Other *(please specify)*					

2. (a) What is the business organisation structure? (e.g. own farm, own farm and outgrower scheme)

.....

(b) If the firm has its own farm(s):

a. Plot Number	b. Size (acres)	c. State i. Fallow ii. Cultivated iii Other	d. Mode of Ownership i. Purchase ii. Lease iii. Other (please specify)	e. Variety of pineapple cultivated (SC, MD2, SL)

3. (a) Why does the firm adopt this business structure? .....
.....
.....
(b) Has the focus of the organisation changed over time and how?
.....
.....
4.(a) Which countries are your primary export destinations?
.....
(b) Which countries/regions are your secondary export destinations?
.....

(c) Volume of exports

Variety	***2009***	***2010***	***2011***	***2012***
MD2				
Smooth Cayenne				
Sugar Loaf				

(d) What percentage of this firm's sales were:

	2009	**2010**	**2011**	**2012**
Direct exports				
Indirect exports (sold domestically to other firms that exports products)				
Domestic market				

5.(a) During the last two years, has this firm introduced new or significantly improved products or services? Y/N
(b) During the last two years, has this firm introduced any new or significantly improved methods of packaging products? Y/N
(c) During the last two years, has this firm introduced new or significantly improved marketing methods? Y/N
(d) During the last two years, did this firm spend on formal research and development

activities, either in-house or contracted with other export firms? Y/N

(e) During the last two years, did this firm spend on formal research and development activities with exporter associations? Y/N

(f) During the last two years, did this firm spend on formal research and development activities with a government agency? Y/N

6. (a) Did buyers assist with the introduction of any of the following:

Activity		**What did the buyer do?**	**What did the firm do on its own?**
Introduction of new /improved products	Y/N		
Introduction of new/improved packaging methods	Y/N		
Introduction of new/improved marketing methods of	Y/N		
Other *(please specify)*	Y/N		

7. In your opinion, which kind of knowledge allows your firm to be competitive in both the domestic and international market? *(please tick those that apply)*

Branding	Marketing techniques	Quality control	Access to international supply forecasts
Consistent supply	Packaging	Access to international demand forecasts	Other (please specify)

Personnel

8. (a) How many people does the firm employ?

Production Staff	
Non-production staff (e.g. sales, administration)	

(b) Of the production staff, how many are;

Skilled	
Unskilled	

9. How many skilled professionals does the firm have in the following areas:

	Number	Average number of years in the profession	Average number of months of experience in the pineapple /horticulture sector
Agronomy			
Quality control			
Marketers			
Procurement			

Finance

10. (a) Which aspect of your firm's production requires the most funding? (e.g. cultivation, packaging, transportation, marketing, other)

.....

(b) Are you able to access finance for this aspect of production? Y/N

(c) In the last two years, has this firm purchased any new or used fixed assets (e.g. machinery, equipment, land)? Y/N

(d) How was this purchase financed?

Source	**Percent (%)**
Internal funds or retained earnings	
Owners' contribution or issued new equity shares	
Borrowed from banks: private and state-owned	
Borrowed from non-bank financial institutions	
Purchases on credit from suppliers and advances from customers	
Other (e.g. moneylenders, friends, family)	

11. (a) Currently, does this firm have a line of credit or a loan from a financial institution? Y/N

(If No to 11(a) please go to question 12)

(b) What activity of production is it for? .....

(c) What type of financial institution granted this loan? *(please tick)*

Private commercial bank	State-owned bank
Government agency	Non-bank financial institution
Other *(please specify)*	

(d) What type of collateral was required for the loan to be approved?

Land, buildings under ownership of the firm	Machinery and equipment including movables
Accounts receivable and inventories	Personal assets of owner(s)
Formal contractual agreement with international buyer	Other (please specify)

(e) Is the loan amount adequate for the activity for which it was intended and why? Y/N
(If No to (d) above, please explain why)
(f) Why? .....
.....
.....

12. Currently, does the owner or owners of this firm have any outstanding personal loans that are used to finance this firm's business activities? Y/N

13.(a) In the last year, did this firm apply for any loans or lines of credit? Y/N

If No to 13(a), please go to question 13(c)

(b) Was the application successful? Y/N

(c) Why was no application made? *(please tick)*

High collateral requirement	No need for a loan as the firm has enough capital
Complex application procedures	High interest rates
Size of loan was inadequate	Loan maturity date was insufficient
Did not think it would be approved	No financial products suitable for activity which required funding
Other (please specify)	

(d) In your opinion, do financial institutions offer financial products tailored to the activities you require funding for? Y/N

(e) In your opinion, what are the challenges financial institutions face in tailoring financial products to the needs of the industry?
.....
.....
.....

Business environment

14. (a) Has there been much improvement in the following since the change to MD2?

xi. Transportation infrastructure: Y/N
xii. Information systems: Y/N
xiii. Access to credit and inputs: Y/N
xiv. Farmers attitudes to production (e.g. side-selling): Y/N
xv. Exporters attitudes to meeting deadlines: Y/N
xvi. Government's interest in promoting the sector: Y/N

xvii. Other *(please specify):* .....

(b) Please explain your answer in 14(a) above:

.....

.....

.....

15. To what degree do the following elements of the business environment represent an obstacle to your firm?

	No obstacle	**Minor obstacle**	**Moderate obstacle**	**Major obstacle**	**Severe obstacle**
Access to land	1	2	3	4	5
Access to finance	1	2	3	4	5
Inadequately trained workforce	1	2	3	4	5
Access to International Marketing Opportunities	1	2	3	4	5
Domestic government policy (e.g. fertiliser subsidy)	1	2	3	4	5
International government policy (e.g. trade agreements)	1	2	3	4	5
Access to quality inputs (e.g. fertilisers, suckers)	1	2	3	4	5

16. (a) What are the main incentives to set up fruit processing facilities in Ghana?

.....

.....

.....

(b) In your opinion, how can the country strike a balance between exporting and domestic processing? .....

.....

.....

Section 3: Contractual Relations

(a)Input Supply

17. (a) Does your firm import inputs (e.g. fertiliser, packaging materials) on its own? Y/N

(b) Why does it do so? .....

.....

(c) If inputs are sourced from the domestic market, who is the supplier?

Fertiliser	Packaging Materials	Other Input (please specify)

Agrimat/Wienco/Yara/Chemico		

(d) Does the firm have formal contractual relations with the supplier(s)? (e.g. trade credit relations) Y/N

(e) Why is this the case in (d) above?
.....
.....

(b) Relations with Smallholders/outgrowers (If no relations with smallholders, please go to question 23)

18. (a) Does the firm have a formal relationship with outgrowers or smallholders? Y/N

(b) Does this relationship involve an agreed and signed contract? Y/N

(c) What provisions are agreed upon in the contract? *(please tick all that apply)*

Price	Quantity	Technical Assistance	Input Supply	Financial Assistance	Other (please specify)

(d) How many smallholders does this firm contract with? .....

(e) What percentage of the firm's output is supplied by smallholders/outgrowers? .....

.....

.....

(f) Has the percentage of output supplied by smallholders/outgrowers in the last two years increased/decreased/is stable?

(g) Pease explain your answer in (f) above: .....

.....

19. If the firm provides financial assistance, how is this done? *(please tick)*

Direct financial assistance to the smallholder	Guarantor of loans given to by financial institutions to smallholders	Other (please specify)

20. (a) What are the main challenges the firm faces in the provision of financial/technical assistance? .....
.....
.....
(b) What mechanisms are used to ensure non-default by smallholders?

.....

.....

21. (a) Can you make investments into the cooperative/outgrower schemes, confident that the members will not default? Y/N

(b) Do you have to expend many resources in competing for supplies with other firms? Y/N

.....

22.(a) Would you say that contractual relations between firms and smallholders have changed since the introduction of MD2 and why? Y/N
.....
.....

(b) What has changed? *(please tick)*

Smallholders business attitudes (e.g. meeting schedules)	Knowledge transfer mechanisms to smallholders
Market access opportunities	Smallholder bargaining strength
Other (please specify)	

(c) Why?
.....
.....

(d)How is the firm able to manage the trade-off between lower production costs and inclusion of smallholders in the value chain? ……..
……
……

Relations with domestic processing firms
23.(a) Does this firm have formal contractual relations with domestic processing firms? Y/N

(b) If yes, what terms are agreed upon in the contract? *(please tick all that apply)*

Price	Quantity	Technical Assistance	Input Supply	Financial Assistance	Other (please specify)

(c) If no, why is this so? .....
.....

(d) What are the advantages of participating in both the domestic and export value chain?
.....
.....

Section 4: **Linkages with the international market**

24. (a) In your opinion, what are the main sources of Ghana's competitiveness in the international market for pineapples?

.....

.....

(b) Where does Ghana fall short in competing with its competitors (e.g. Costa Rica).....

.....

.....

(c) Is Ghana able to effectively compete with its competitors, using the marketing strategies pursued? Why?

.....

.....

25. (a) How has the firm's relationship with international buyers changed since the move to MD2?

.....

.....

.....

(b) Have the range of activities you perform for the buyer, increased over time? Y/N

(c) Which other activities do you perform apart from cultivation of pineapples?

.....

.....

26.(a) How do you products enter their export destinations? (e.g. Importer, Retail agent, direct shipment to retailer): .....

(b) Are you satisfied with the distribution channel of your products? Y/N

.....

.....

.....

27. (a) In the last two years, has this firm had a dispute with a buyer concerning the quality of exported produce? Y/N

(b) In case of quality failure of exported produce, who bears responsibility? *(please tick)*

Buyer	Transporter	Exporter	Buyer & Exporter	Depends on the circumstances

(c) What is the buyer's role in the quality control function?

.....

.....

(d) What dispute mechanisms are available for the exporter to seek redress in circumstances of quality failure?

.....

.....

.....

Section 5: Linkages with other domestic stakeholders

(A) Knowledge interaction system

28. (a) What information/knowledge is usually shared among participants in the sector?

.....

……

(b) If you urgently need information and knowledge on production processes, who from the list below do you turn to? On a scale of 1= least, 3 = medium and 5 = high, please rate the reliability, speed and importance of the knowledge to you.

Individual/Organisation	***Speed of knowledge transfer***	***Reliability of knowledge***
Own employees		
International Buyers		
GEPC		
SPEG		
Bomarts		
Chartered Impex		
Golden Exotics Ltd		
Koranco Ltd		
Bio-Exotica		
Jei-River		
Georgefields Farms		
Volta River Estates Ltd		
Donor organisations e.g. USAID, GIZ		
Horticulture Unit of MoFA		
International Agri-business Consultant(s)		
Domestic Agri-business consultant (s)		
Universities (please specify)		
Other (please specify)		

(c) Why does the firm choose to contact organisations above? (e.g. personal relations with employees in the organisation, etc).....

.....

.....

(d)Which of the following has this firm provided information on production processes to?

Please indicate the reliability and speed of the information you provided using the scale: 1 = least, 3 =medium, 5=high

Individual/Organisation	***Speed of knowledge***	***Reliability of***

	transfer	***knowledge***
International buyers		
GEPC		
SPEG		
Bomarts		
Golden Exotics Ltd		
Chartered Impex		
Koranco Ltd		
Bio-Exotica		
Jei-River		
Georgefields Farms		
Horticulture Unit of MoFA		
Donor organisations e.g. USAID, GIZ		
Outgrowers		
Crop Research Institutions		
Universities (please specify)		
Business Associations		
Other (please specify)		

(e) Are there any government policies which make it difficult for the firm to access and use knowledge for production? Y/N

.....

.....

.....

(f) Are there any government policies which make it difficult for the firm to be innovative in the industry? Y/N

(g) Which policies are these? .....

.....

.....

(h) Are there any other challenges to acquisition and use of knowledge for production? Y/N

.....

.....

28. (a) What are the incentives for exporters to be part of the SPEG?

.....

.....

.....

(b) In your opinion, how important is the role of the SPEG to the functioning of the industry?

.....

.....

.....

(c) SPEG is trying to put in place an industry-wide quality control mechanism. What are the main advantages of having a uniform quality control mechanism for all exporting

firms?

.....
.....
.....

(d) What is the main advantage of marketing your firm's exports under the SPEG's SANKOFA brand?

.....
.....
.....

(e) How will the efforts of SPEG complement your company's own marketing efforts?

.....
.....
.....

29. (a) What role does the Ghana Export Promotion Authority (GEPA) play in the firm's ability to market its products abroad?

.....
.....
.....

(b) What can be done to improve the role of GEPA in marketing of the industry's products?

.....
.....
.....

Section 6: Institutional Complementarities

30. (a) Is there an understanding on who has responsibility for different sections of the market? Y/N

(b) Are the organisations responsible, able to carry out their functions efficiently? Y/N

(c) If No, in (b) please explain:

.....
.....
.....

31. (a) Are you able to identify other organisations in the political, social environment, who share this firm's goals and values?

.....
.....
.....

(b) Are you able to coordinate your goals with this organisation? Why? Y/N

.....
.....
.....

32. What information/skills do you and your partners need to help you operate more efficiently?

.....
.....
.....

33. (a) In your opinion, what relationships in the chain are the strongest and which ones could use more work?

.....

.....

.....

(b) Is the firm able to identify a leader in the industry, in terms of negotiating with the government? Y/N

(c) Who is this leader? .....

(d) To what extent is this company able to collaborate with other exporters/processors to influence government policy in the sector?

.....

.....

34. (a) What forms of collaboration have taken place between this firm and other exporters in the last two years? *(please tick all that apply)*

Marketing of produce	Negotiating export prices with buyers	Bulk buying of packaging materials	Joint quality control
Other (please specify)			

(b) Please give an example of a collaboration that has been done:

.....

.....

.....

(c) What are the challenges in improving inter-firm relations?

.....

……

(d) In the last two years, has this firm collaborated with any research institution or university? Y/N

Example of collaboration done: .....

.....

(e) In the last two years, has this firm collaborated with any a donor agency? Y/N

Example of collaboration done: .....

.....

35.(a) What change(s) in the domestic pineapple sector would your organisation benefit from? Please list in order of preference

i. .....
ii. .....
iii. .....
iv. .....
v. .....

(b) As an organisation, have you been able to carry any of this out on your own? Y/N

(c) What factors/circumstances enable/hinder you from doing this?

.....

.....

.....

(d) Have you tried mechanisms/methods which have failed over the years?

.....

.....

.....

36. Any other comments and/or thoughts?

.....

.....

.....

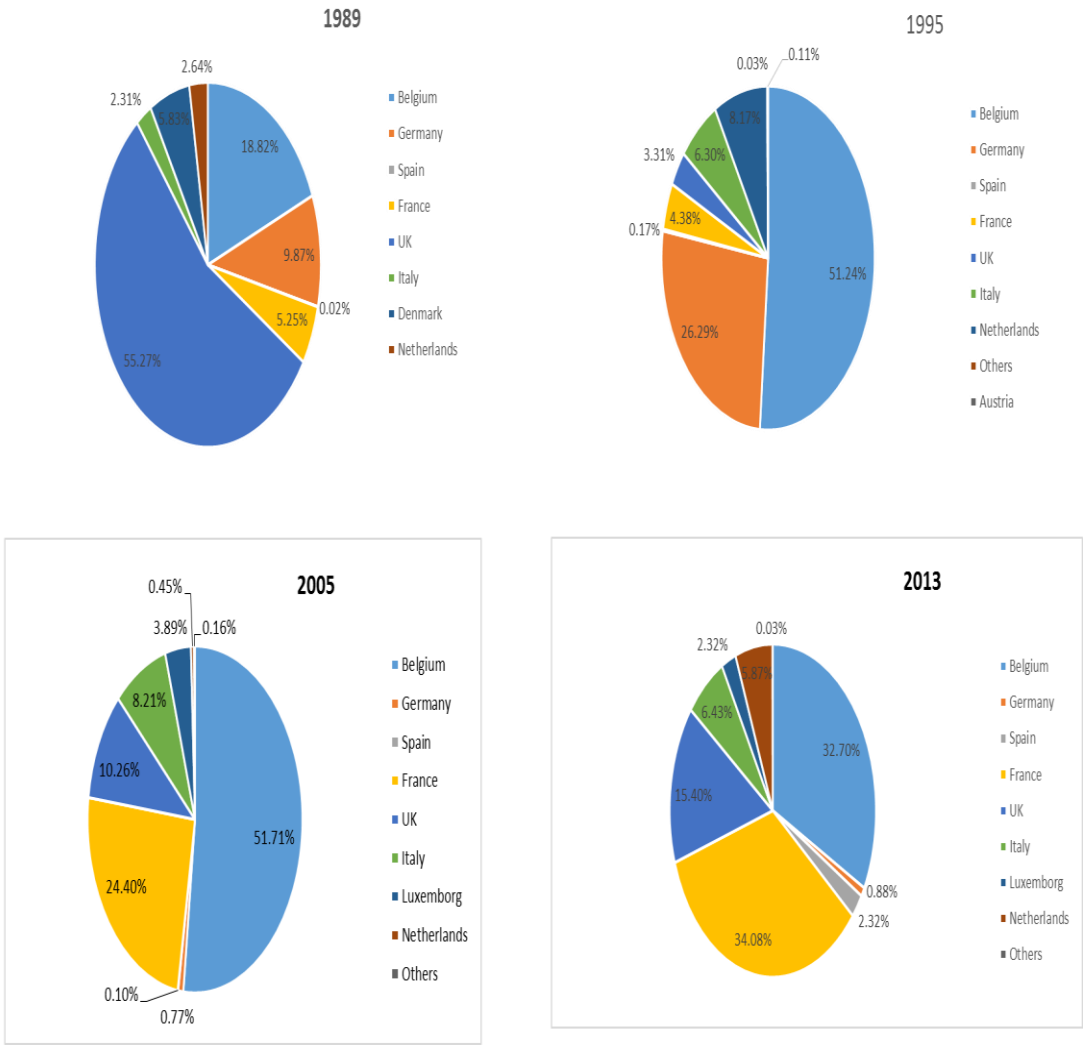
.....

.....

Thank you very much for the time you have dedicated to answering this questionnaire. Your cooperation is appreciated.

Appendix 6

Appendix 6.1: Evolution of EU countries share in Ghana's imports of pineapple



Source: Author, based on Eurostat Comext (2016)